

# User Ratings of Computer Systems

Datapro is proud to present the 1981 edition of the annual User Ratings of Computer Systems report. This year, the survey has been based on results received from 15,000 questionnaires mailed to a cross-section of *Computerworld* readers.

The overall plan for the 1981 survey is to provide a high representation of users of computer systems of all sizes—desktop, personal, microcomputers, minicomputers, and general-purpose computers—and report what these users think about their systems. The users were asked to supply selected hardware and software configuration information, identify the method of acquisition, and report on significant advantages and problems of their systems. The users were also asked to rate their systems in fourteen subjective categories. In addition, the users were asked whether their computer systems did what they expected them to do, and whether they would recommend their systems to other users.

Datapro has improved the sampling methodology and the statistical validity of the 1981 Computer System User Survey (see SURVEY METHODOLOGY). We think the 1981 survey represents our most successful survey of user opinions of computer systems.

Datapro suggests that the reader use the information advisedly and reminds readers that individual profiles or ratings should not be the major consideration in making an acquisition decision. The reader can use the material in this report to help formulate questions about a computer system as the evaluation process proceeds. The information within this report will be very informative if used with discretion and with the understanding that there are many factors involved in selecting the right computer system(s) to meet your particular needs.

## SURVEY METHODOLOGY

The survey has been based on results received from 15,000 questionnaires mailed to a very carefully controlled *nth* sampling from specific subsets of *Computerworld*'s subscriber list. The specific subsets were identified and qualified by senior analysts from Datapro and *Computerworld*. In an effort to improve the response rate and thereby increase the statistical validity, the users were contacted twice; a first request was followed weeks later by a second request.

Each questionnaire allowed the user to rate one digital computer system. The recipient was encouraged to reproduce the form if he/she wished to rate more than two models. *Computerworld* labels were used as initial validation vehicles and for identification and elimination of duplicate returns.

Each recipient was asked to summarize experiences with computer systems of any size (microcomputer through

**The results of Datapro's 1981 Annual Computer System User Survey are presented in this report. Extensive charts and tables summarize the experience of 4,218 users of desktop, personal, microcomputer, minicomputer, small business computer and general-purpose computer systems. The users' ratings pinpoint strengths and weaknesses of each manufacturer's equipment, software, and support, and provide information that should be of great value in computer acquisition.**

supercomputer) currently being used. Users were asked 86 questions about their systems.

When Datapro received the returns, senior-level analysts audited the returns. Duplicate responses were invalidated. Also eliminated were any or all forms which: did not identify manufacturer or model; did not withstand a "reasonableness" test; evaluated different makes and models on one form; were forgeries; lacked system ratings; rated systems which were not computer systems; or revealed a vested interest on the part of the respondents.

Datapro processed 4,870 returns from 4,597 respondents, a return of 32% from the *Computerworld* mailings. A total of 379 responses were judged invalid. A total of 168 users rated two different systems, and 42 users rated more than two different systems.

Datapro batched the valid returns by manufacturer and model and sent the returns to Mathematica Policy Research, Inc. which tabulated the 1981 results. The summary information was prepared in the form of either averages, percentages, or weighted averages. Weighted averages were computed in a manner similar to most college grading systems: "Excellent" is weighted as 4, "Good" as 3, "Fair" as 2, and "Poor" as 1. The tallied numbers for each value are then multiplied by the corresponding weight, and the average is taken by dividing the sum of the products by the total number of responses for that category.

## WHAT MADE UP THE 1981 QUESTIONNAIRE?

Our questionnaire was comprehensive and asked the users a total of 86 questions. Each user was asked to identify the manufacturer, model, month/year of acquisition and method of acquisition. Each user was requested to identify the type of industry, principal applications, and the sources of the applications programs. We also asked the users for information about their hardware and software configurations, about acquisitions or implementations planned for 1981, and whether they expected to replace their computer systems in 1981.

## User Ratings of Computer Systems

► The next group of questions on the survey requested the users to check any significant advantages of the system and any significant problems they had encountered.

All users were asked to rate their systems in the following categories: ease of operation, reliability of mainframe, reliability of peripherals, maintenance service (responsiveness and effectiveness), technical support (troubleshooting, education, and documentation), manufacturer's software (operating system, compilers and assemblers, and application programs), ease of programming, ease of conversion, and overall satisfaction.

We also asked users whether the computer system did what it was expected to do, and whether they would recommend their computer system to another user.

### SURVEY RESULTS

Datapro decided to identify three broad classes of computer systems: mainframes and plug-compatible mainframes (PCMs); minicomputers and small business computers (SBCs); and desktop, personal, and microcomputers. Table 1, "Mainframes and Plug-Compatible Mainframes," contains the results on 72 models from 10 mainframe and plug-compatible mainframe vendors, representing 1919 user responses. Table 2, "Minicomputers and Small Business Computers," contains the results on 98 minicomputer and small business computer models from 28 vendors, representing 2192 responses. Table 3, "Desktop, Personal, and Microcomputers," contains results on 21 models from 17 vendors, representing 337 user responses.

In addition to tabulating the individual responses by manufacturer and model, Datapro wanted to examine and compare the results across manufacturers in each of the broad classes of computer systems. Table 4, "Mainframe and Plug-Compatible Mainframe Vendor Summaries" contains vendor summaries of the information in Table 1. Table 5, "Minicomputer and Small Business Computer Vendor Summaries," contains vendor summaries of the information in Table 2. Although logic suggests a vendor summary table for desktop, personal, and microcomputers, such a table would be practically identical to Table 3 and is not reproduced here.

### FINANCIAL ACQUISITION ALTERNATIVES

The rapid advances in technology with declining costs of hardware have posed some pricing problems for vendors. One of the interesting balances for vendors to achieve is keeping users happy with increases in price/ performance, usually with lower unit costs; and keeping sales personnel happy with "net-ups." One way to achieve this balance can be to price purchase as a more attractive alternative than rental/lease. The great majority of users of "classical" minicomputers such as those produced by DEC and Data General have usually purchased their systems. Such users have enjoyed benefits such as the

investment tax credit and depreciation schedule allowances. Until recently, users of small business computers from companies such as IBM and NCR were predominantly oriented toward rental from the manufacturer, since financial terms and plans benefited the rental customer. Now there is a change, due in large part to the balance already explained.

One of the questions we asked, therefore, was how users acquired their systems: outright purchase, rental from the manufacturer, or third-party lease.

Reference to Figure 1 shows that more minicomputer and small business computer (SBC) users purchase their systems than do mainframe or plug-compatible mainframe (PCM) users (63% compared to 43%). The desktop, personal and microcomputers are primarily acquired via purchase.

	Mainframes/ PCMs	Minis & SBCs	Desktop, Personal, & Micro- computers
Purchase (%)	43	63	91
Rent/lease from Mfr. (%)	33	25	3
Lease from 3rd Party (%)	24	12	6

Figure 1. Financial acquisition alternatives

### TYPE OF INDUSTRY

One of the questions we requested the user to answer was "What type of industry describes your company?". Chart A. shows the market penetration in each industry by manufacturer in each class of computer systems.

### PRINCIPAL APPLICATIONS

The 1981 top four principal applications for all three classes of computer systems are: accounting/billing, payroll/personnel, order processing/inventory control and sales distribution. (See Figure 2, "User Ratings of Principal Applications"). Purchasing ranked fifth in both mainframes and PCMs and minis and SBCs and sixth in

Mainframes and Plug-Compatible Mainframes	Minicomputers and Small Business Computers	Desktop, Personal, and Microcomputers
1. Accounting/Billing	1. Accounting/Billing	1. Accounting/Billing
2. Payroll/Personnel	2. Payroll/Personnel	2. Payroll/Personnel
3. Order Processing/ Inv. Control	3. Order Processing/ Inv. Control	3. Order Processing/ Inv. Control
4. Sales/Distribution	4. Sales/Distribution	4. Sales/Distribution
5. Purchasing	5. Purchasing	5. Purchasing
6. Manufacturing	6. Manufacturing	6. Manufacturing
7. Banking	7. Engr./Scientific	7. Engr./Scientific
8. Math./Statistics	8. Math./Statistics	8. Math./Statistics
9. Education	9. Education	9. Education
10. Engr./Scientific	10. Health Care/ Medical	10. Health Care/ Medical

Figure 2. User rankings of principal applications

## User Ratings of Computer Systems

## Chart A. Computer Usage by Manufacturer and Industry Type

Manufacturer	Type of Industry	Banking/Finance/ Securities	Chemical/Petroleum	Construction	Education	Engineering/ Scientific	Government	Health Care/ Medical	Insurance	Legal	Manufacturing	Media	Public Accounting/ Consulting	Retail/Wholesale	Service Bureau	Transportation	Utilities (Public)	Other	
	<b>MAINFRAMES &amp; PLUG-COMPATIBLE MAINFRAMES</b>																		
Amdahl (30)	20.00	0.00	0.00	13.33	3.33	23.33	0.00	10.00	0.00	16.67	0.00	0.00	0.00	3.33	0.00	6.67	3.33		
Burroughs (246)	21.14	0.00	1.22	10.57	0.00	14.23	4.88	3.25	0.00	16.26	0.41	0.41	10.57	5.69	4.88	1.22	5.28		
Control Data (29)	17.24	0.00	3.45	27.59	3.45	6.90	0.00	6.90	0.00	10.34	0.00	0.00	3.45	3.45	0.00	6.90	10.34		
Digital Equipment (39)	0.00	0.00	0.00	38.46	5.13	10.26	5.13	0.00	0.00	7.69	0.00	0.00	0.00	10.26	0.00	2.56	20.51		
Honeywell (163)	5.52	1.84	4.90	14.11	0.61	9.20	4.29	3.06	0.00	22.08	0.00	0.00	15.95	4.90	3.06	1.84	7.97		
IBM (1075)	13.86	2.13	0.74	6.98	1.12	8.29	4.56	9.95	0.28	25.95	1.40	0.47	8.93	4.93	2.60	3.16	7.53		
Magnuson (18)	16.67	0.00	0.00	11.11	0.00	5.56	0.00	0.00	0.00	16.67	5.56	0.00	11.11	22.22	5.56	0.00	5.56		
NAS (34)	14.71	0.00	0.00	14.71	2.94	11.76	2.94	17.65	0.00	17.65	2.94	0.00	2.94	0.00	0.00	2.94	8.82		
NCR (147)	22.45	1.36	0.68	6.12	0.68	4.08	8.16	1.36	0.68	20.41	0.68	0.68	21.09	4.08	0.00	2.72	4.76		
Univac (135)	2.22	1.48	1.48	11.85	1.48	19.26	4.44	6.67	0.00	20.74	1.48	0.00	9.63	2.22	4.44	3.70	8.89		
Other Manufacturers (3)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.33	0.00	33.33	0.00	0.00	33.33	0.00	0.00	0.00	0.00		
All Mainframe Manufacturers (1919)	13.53	1.53	1.17	9.34	1.07	9.65	4.70	7.35	0.20	22.26	1.07	0.36	10.11	4.80	2.65	2.86	7.25		
	<b>MINICOMPUTERS &amp; SMALL BUSINESS COMPUTERS</b>																		
Basic Four (37)	10.81	2.70	0.00	0.00	0.00	0.00	2.70	2.70	0.00	29.73	0.00	13.51	10.81	0.00	5.41	0.00	21.62		
BTI (6)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.67	0.00	0.00	0.00	33.33		
Burroughs (52)	17.31	0.00	5.77	5.77	0.00	5.77	7.69	1.92	10.00	15.38	0.00	7.69	19.23	1.92	0.00	3.85	7.69		
Cado (5)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	0.00	0.00	80.00	0.00	0.00	0.00	0.00	0.00		
Computer Automation (6)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.67	0.00	16.67	0.00	0.00	16.67	0.00	0.00	0.00	50.00		
Datapoint (60)	1.66	1.66	8.33	1.66	3.33	3.33	1.66	8.33	0.00	16.66	0.00	10.00	11.66	11.66	1.66	0.00	18.33		
Digital Equipment (294)	4.08	2.72	2.04	12.59	8.84	6.12	6.80	1.70	0.68	11.22	3.74	5.78	9.52	8.16	0.68	2.04	12.93		
Data General (140)	7.14	0.00	3.57	4.29	5.71	4.29	2.86	1.43	0.71	17.14	1.43	5.00	10.71	10.00	0.71	2.14	22.14		
Four-Phase (27)	0.00	0.00	0.00	0.00	0.00	18.52	37.04	3.70	0.00	29.63	0.00	0.00	7.41	3.70	0.00	0.00	0.00		
General Automation (12)	0.00	0.00	8.33	50.00	8.33	0.00	0.00	0.00	0.00	16.67	0.00	0.00	0.00	8.33	0.00	0.00	0.00	8.33	
Harris (13)	0.00	7.69	0.00	53.85	0.00	0.00	7.69	7.69	0.00	15.38	0.00	0.00	0.00	0.00	0.00	0.00	7.69		
Honeywell (29)	13.79	0.00	0.00	3.45	0.00	10.34	10.34	0.00	0.00	17.24	0.00	6.90	17.24	6.90	0.00	0.00	13.79		
Hewlett-Packard (173)	4.62	3.47	0.58	5.78	4.05	5.78	8.09	2.89	0.00	28.90	0.58	4.05	5.78	8.67	0.58	0.58	15.61		
IBM (835)	4.76	2.38	3.25	3.13	0.38	3.75	4.38	2.88	0.25	36.05	1.25	5.76	14.52	2.88	2.50	1.00	10.39		
Mini-Computer Systems (5)	0.00	0.00	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	20.00		
Microdata (52)	1.92	1.92	3.85	1.92	0.00	3.85	5.77	5.77	0.00	21.15	0.00	3.85	21.15	9.62	3.85	0.00	13.46		
Modcomp (4)	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	25.00		
NCR (82)	13.10	1.19	3.57	9.52	0.00	16.67	2.38	0.00	0.00	9.52	1.19	2.38	19.05	5.95	1.19	3.57	10.71		
Nixdorf (7)	0.00	0.00	0.00	0.00	0.00	28.57	0.00	0.00	0.00	0.00	14.29	0.00	14.29	28.57	0.00	0.00	14.29		
Northern Telecom (12)	0.00	0.00	0.00	8.33	0.00	8.33	0.00	8.33	0.00	66.67	0.00	0.00	0.00	8.33	0.00	0.00	0.00		
Perkin-Elmer (19)	21.05	0.00	0.00	5.26	15.79	15.79	5.26	0.00	0.00	5.26	0.00	5.26	10.53	5.26	0.00	0.00	10.53		
Point 4 (9)	0.00	0.00	0.00	0.00	0.00	11.11	11.11	0.00	0.00	11.11	0.00	11.11	11.11	11.11	0.00	0.00	33.33		
Prime (67)	8.96	0.00	0.00	14.93	5.97	5.97	0.00	1.49	0.00	17.91	1.49	1045	5.97	14.93	0.00	1.49	10.45		
Qantel (19)	0.00	0.00	0.00	5.26	0.00	0.00	0.00	0.00	0.00	26.32	5.26	26.32	5.26	5.26	0.00	0.00	26.32		
Tandem (10)	20.00	0.00	0.00	10.00	0.00	0.00	20.00	0.00	10.00	10.00	0.00	10.00	0.00	0.00	0.00	10.00			
Texas Instruments (46)	0.00	0.00	2.17	0.00	0.00	6.52	6.52	2.17	0.00	10.87	2.17	17.39	23.91	13.04	0.00	0.00	13.04		
Univac (26)	0.00	0.00	0.00	3.85	3.85	19.23	3.84	0.00	0.00	19.23	0.00	3.85	15.38	3.85	11.54	0.00	3.85	11.54	
Wang (97)	8.25	1.03	1.03	0.00	2.06	5.15	3.09	6.19	1.03	12.37	3.09	10.31	14.43	11.34	2.06	1.03	17.53		
Other Manufacturers (48)	2.70	10.81	2.70	5.41	2.70	5.41	2.70	0.00	0.00	18.92	2.70	8.11	13.51	10.81	2.70	0.00	10.81		
All Mini/SBC Manufacturers (2192)	5.45	1.99	2.61	5.83	2.75	5.73	5.21	2.70	0.33	24.12	1.56	6.02	12.80	6.68	1.66	1.28	12.89		
	<b>DESKTOP, PERSONAL, &amp; MICROCOMPUTERS</b>																		
Alpha Micro (15)	13.33	0.00	0.00	0.00	0.00	6.67	6.67	0.00	0.00	20.00	0.00	20.00	6.67	0.00	0.00	0.00	40.00		
Altos (10)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	10.00	0.00	0.00	0.00	0.00	60.00		
AM Jacquard (4)	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	25.00	25.00	0.00	0.00	0.00		
Apple (48)	10.42	0.00	0.00	12.50	6.25	2.08	4.17	2.08	2.08	2.08	2.08	22.92	8.33	4.17	0.00	0.00	20.83		
Commodore (7)	0.00	0.00	0.00	14.29	14.29	0.00	14.29	0.00	0.00	0.00	0.00	57.14	0.00	0.00	0.00	0.00	0.00		
Cromemco (8)	0.00	0.00	0.00	12.50	0.00	50.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	25.00		
Heath (4)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	25.00	25.00	0.00	0.00	0.00	25.00		
Hewlett-Packard (4)	25.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00		
IBM (30)	10.00	0.00	6.67	0.00	0.00	6.67	3.33	0.00	13.33	0.00	13.33	13.33	6.67	0.00	0.00	0.00	26.67		
IMSAI (7)	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71.43	14.29	0.00	0.00	0.00	0.00		
Intertec (6)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.67	16.67	33.33	0.00	0.00	33.33		
North Star (14)	0.00	0.00	0.00	7.14	7.14	0.00	0.00	0.00	0.00	7.14	0.00	28.57	14.29	7.14	0.00	0.00	21.43		
Ohio Scientific (9)	0.00	0.00	0.00	22.22	0.00	0.00	0.00	11.11	0.00	0.00	0.00	11.11	11.11	22.22	0.00	0.00	22.22		
Pertec (9)	0.00	11.11	0.00	11.11	0.00	22.22	11.11	0.00	0.00	11.11	0.00	0.00	0.00	11.11	0.00	0.00	22.22		
Processor Technology (4)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	25.00	25.00	0.00	0.00	0.00	50.00		
Radio Shack (70)	1.42	0.00	2.85	7.14	2.85	1.42	0.00	2.85	0.00	4.28	4.28	25.71	7.14	10.00	1.42	0.00	27.14		
Vector Graphic (11)	0.00	0.00	0.00	9.09	9.09	0.00	0.00	0.00	0.00	9.09	0.00	0.00	27.27	18.18	0.00	0.00	27.27		
Other Manufacturers (77)	2.59	1.29	2.59	1.29	5.19	2.59	7.79	0.00	0.0										

**User Ratings of Computer Systems**

► desktop, personal and microcomputers. Other applications that appear among the 10 top applications in all three categories are manufacturing, mathematics/statistics, education, and engineering/scientific. Banking placed seventh in mainframes and PCMs and it did not make the list in minis and SBCs.

**SOURCES OF APPLICATIONS PROGRAMS**

The computer application development life cycle is a highly labor-intensive cycle. As labor costs climb, so does the cost of software development. As computers increase in capability and speed and as users become accustomed to results, the clamor for additional applications for "the computer" increases. Since many systems already face a two-year backlog in bringing up desirable applications, it is becoming more and more common for users to seek multiple sources for applications programs. And as the proprietary software industry increases in maturity and sophistication, "packaged software" becomes a desirable adjunct to in-house development.

We asked the users how they acquired their software, specifically, their applications software. The user rankings of sources of applications programs appear in Figure 3. First on all three lists is in-house personnel. The preparation of software by in-house personnel is often a highly desirable route because of the in-house management control plus the total tailorability of the software to the user's operational requirements (ideally).

Mainframes and Plug-Compatible Mainframes	Minicomputers and Small Business Computers	Desktop, Personal, and Microcomputers
1. In-house personnel 2. Proprietary software packages 3. "Ready-made" programs from mfg. 4. Contract programming 5. Manufacturer's personnel	1. In-house personnel 2. Contract programming 3. Proprietary software packages 4. "Ready-made" programs from mfg. 5. Manufacturer's personnel	1. In-house personnel 2. "Ready-made" programs from manufacturer 3. Proprietary software packages 4. Contract programming 5. Manufacturer's personnel

**Figure 3. User rankings of sources of applications programs**

Proprietary software packages appear second on the mainframe and PCM list of rankings of sources of applications packages. This confirms the high degree of acceptance of proprietary software packages as an adjunct to in-house development. Contract programming appears second for minis and SBCs as a source of application programs and "ready-made" programs from manufacturer appears second for desktop, personal, and microcomputers. "Ready-made" programs from the manufacturer are ranked third among users of mainframes and PCMs, followed by contract programming and manufacturer's personnel.

In the 1981 survey results as compared to the 1980 survey results, the source of applications programs has changed for both minis and SBCs and desktop, personal, and microcomputers, with proprietary software packages

moving into third place. Fourth on the list for minis and SBCs is "ready-made" programs from the manufacturer and for desktop, personal and microcomputers contract programming placed fourth. Last on all three lists in Figure 3 is manufacturer's personnel. Historically, custom software from the manufacturer has been the most expensive way to get software.

**WORD PROCESSING**

With the increasing trend toward word processing applications, we asked the users, "Have you integrated word processing functions on this computer?" A surprising 55% of the desktop, personal and microcomputer users said "yes." Twenty-five percent of the minicomputer and SBC users indicated that they have integrated word processing functions on their systems, as did 11 percent of the mainframe and PCM users.

**PRIMARY PROGRAMMING LANGUAGES**

"Which programming language should I use?" is a question that often results in a long debate among programmers and computer scientists. Since most studies show that it takes about the same amount of time to code an instruction, whatever the language, the answer would appear to be: "Whichever language will result in the fastest possible documented implementation of the application specification."

Chart B illustrates which programming languages are used most by class of computer systems and by manufacturer within each class. As Chart B shows, for large system users, the most frequent language used is COBOL, followed distantly by Assembler and RPG. For minis and SBCs, RPG was the language used most frequently, followed by COBOL and BASIC, as shown in Chart B. It was no surprise to find BASIC the language most used by the desktop, personal, and microcomputer users. Second came the Assembler languages, followed by COBOL, as shown in Chart B.

**LOCAL AND REMOTE WORKSTATIONS/TERMINALS**

We asked the users, "How many local workstations/terminals do you have on site?" and "How many remote workstations/terminals do you have?" In the emerging trend to bring computers to the people who need them and can use them, workstations/terminals are the primary means of implementation. We have prepared Chart C on the usage of local and remote workstations/terminals by class of computer systems and by manufacturer within each class. Chart C shows that a high proportion of the current mainframes have between 6 and 15 local workstations/terminals, and that of those mainframes using remote terminals, 19% are using over 60 workstations/terminals. Over 40% of the current minis have between 1 and 5 local terminals, and most of the minis using remote terminals also have from 1 to 5 terminals, as shown in Chart C. Even the desktop, personal, and microcomputers have increased their use of both local and remote terminals, as shown in Chart C. ▶

## User Ratings of Computer Systems

## Chart B. Primary Programming Language

Programming Language Used Most	Assembler	APL	BASIC	COBOL	FORTRAN	Pascal	PL/1	RPG	Other
Manufacturer									
<b>MAINFRAMES &amp; PLUG-COMPATIBLE MAINFRAMES</b>									
Amdahl (30)	13.33	0.00	0.00	76.67	6.67	0.00	3.33	0.00	0.00
Burroughs (246)	0.41	0.00	0.41	85.77	0.41	0.00	0.00	11.79	1.22
Control Data (29)	10.34	0.00	10.34	51.72	24.14	0.00	0.00	3.45	0.00
Digital Equipment (39)	2.56	0.00	20.51	51.28	12.82	0.00	0.00	0.00	12.82
Honeywell (163)	1.22	0.00	1.84	88.95	2.45	0.00	1.22	4.29	0.00
IBM (1075)	14.05	0.37	0.47	72.00	1.49	0.00	4.74	6.14	0.37
Magnuson (18)	22.22	0.00	0.00	61.11	5.56	0.00	11.11	0.00	0.00
NAS (34)	17.65	0.00	0.00	70.59	0.00	0.00	5.88	0.00	5.88
NCR (147)	1.36	0.00	0.68	57.82	0.00	0.00	0.00	0.68	38.78
Univac (135)	8.89	0.74	0.74	71.11	2.22	0.00	0.00	15.56	0.74
Other Manufacturers (3)	33.33	0.00	0.00	33.33	0.00	0.00	0.00	33.33	0.00
All Mainframe Manufacturers (1919)	9.65	0.26	1.12	71.87	1.99	0.00	2.96	8.12	3.78
<b>MINICOMPUTERS &amp; SMALL BUSINESS COMPUTERS</b>									
Basic Four (37)	0.00	0.00	97.30	0.00	0.00	0.00	0.00	0.00	2.70
BTI (6)	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Burroughs (52)	0.00	0.00	0.00	88.46	0.00	0.00	0.00	3.85	1.92
Cado (5)	0.00	0.00	40.00	0.00	0.00	0.00	0.00	0.00	60.00
Computer Automation (6)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Datapoint (60)	1.66	0.00	5.00	10.00	0.00	0.00	0.00	5.00	78.33
Digital Equipment (294)	5.78	0.00	37.76	7.82	20.75	1.70	0.68	1.02	23.47
Data General (140)	4.29	0.00	34.29	35.71	18.57	0.71	0.71	0.00	4.29
Four-Phase (27)	7.41	0.00	7.41	33.33	0.00	0.00	0.00	3.70	44.44
General Automation (12)	0.00	0.00	0.00	0.00	75.00	0.00	0.00	8.33	16.67
Harris (13)	7.69	0.00	0.00	76.92	15.38	0.00	0.00	0.00	0.00
Honeywell (29)	10.34	0.00	20.69	55.17	6.90	0.00	0.00	0.00	3.45
Hewlett-Packard (173)	1.73	0.00	17.34	53.18	17.92	0.00	0.00	7.51	1.73
IBM (835)	1.13	0.25	1.25	9.51	1.00	0.00	0.50	82.60	3.25
Mini-Computer Systems (5)	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Microdata (52)	0.00	0.00	82.69	1.92	0.00	0.00	0.00	0.00	13.46
Modcomp (4)	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00
NCR (82)	3.57	0.00	0.00	71.43	0.00	0.00	0.00	1.19	22.62
Nixdorf (7)	0.00	0.00	28.57	42.86	14.29	0.00	0.00	0.00	14.29
Northern Telecom (12)	0.00	0.00	0.00	75.00	0.00	0.00	0.00	0.00	25.00
Perkin-Elmer (19)	21.05	0.00	10.53	42.11	21.05	5.26	0.00	0.00	0.00
Point 4 (9)	0.00	0.00	77.78	22.22	0.00	0.00	0.00	0.00	0.00
Prime (67)	2.99	1.49	14.93	22.39	49.25	1.49	2.99	0.00	4.48
Qantel (19)	0.00	0.00	68.42	0.00	0.00	0.00	0.00	0.00	31.58
Tandem (10)	0.00	0.00	0.00	60.00	10.00	0.00	0.00	0.00	30.00
Texas Instruments (46)	6.52	0.00	17.39	71.74	0.00	0.00	0.00	2.17	2.17
Univac (26)	15.38	0.00	0.00	23.08	7.69	0.00	0.00	50.00	3.85
Wang (97)	3.09	0.00	60.82	27.84	0.00	0.00	0.00	8.25	0.00
Other Manufacturers (48)	8.11	0.00	29.73	16.22	8.11	0.00	0.00	5.41	27.03
All Mini/SBC Manufacturers (2192)	3.13	0.14	17.82	23.89	8.86	0.38	0.43	33.55	10.90
<b>DESKTOP, PERSONL, &amp; MICROCOMPUTERS</b>									
Alpha Micro (15)	13.33	0.00	80.00	0.00	0.00	0.00	0.00	0.00	0.00
Altos (10)	10.00	0.00	60.00	0.00	0.00	0.00	0.00	0.00	30.00
AM Jacquard (4)	0.00	0.00	75.00	25.00	0.00	0.00	0.00	0.00	0.00
Apple (48)	2.08	0.00	70.83	2.08	0.00	22.92	0.00	0.00	2.08
Commodore (7)	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Cromemco (8)	0.00	0.00	50.00	37.50	12.50	0.00	0.00	0.00	0.00
Heath (4)	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Hewlett-Packard (4)	0.00	0.00	75.00	0.00	0.00	0.00	0.00	0.00	25.00
IBM (30)	0.00	6.67	90.00	0.00	0.00	0.00	0.00	3.33	0.00
IMSAI (7)	0.00	0.00	71.43	0.00	0.00	14.29	14.29	0.00	0.00
Intertec (6)	33.33	0.00	33.33	33.33	0.00	0.00	0.00	0.00	0.00
North Star (14)	7.14	0.00	57.14	7.14	0.00	21.43	0.00	0.00	7.14
Ohio Scientific (9)	11.11	0.00	88.89	0.00	0.00	0.00	0.00	0.00	0.00
Pertec (9)	0.00	0.00	44.44	33.33	0.00	0.00	0.00	0.00	22.22
Processor Technology (4)	25.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	25.00
Radio Shack (70)	15.71	0.00	72.85	8.57	0.00	1.42	0.00	0.00	1.42
Vector Graphic (11)	18.18	0.00	81.82	0.00	0.00	0.00	0.00	0.00	0.00
Other Manufacturers (77)	12.98	0.00	42.85	6.49	10.38	2.59	1.29	2.59	16.88
All Micro Manufacturers (337)	8.31	0.52	67.53	5.97	2.60	4.68	0.52	0.78	8.05

Note: Numbers in parentheses indicate number of user responses; all other figures are percentages of corresponding users of each make.

## User Ratings of Computer Systems

## Chart C. Usage of Local and Remote Workstations/Terminals

Manufacturer	No. of Workstations/ Terminals per System	Local						Remote								
		None			1-5			6-15			16-30			31-60		
		None	1-5	6-15	16-30	31-60	Over 60	None	1-5	6-15	16-30	31-60	Over 60	None	1-5	6-15
<b>MAINFRAMES &amp; PLUG-COMPATIBLE MAINFRAMES</b>																
Amdahl (30)	0.00	3.33	6.67	20.00	13.33	53.33	0.00	0.00	3.33	10.00	13.33	73.33				
Burroughs (246)	2.85	24.39	43.90	15.04	6.91	5.28	34.96	17.89	15.04	9.35	8.94	11.38				
Control Data (29)	0.00	17.24	31.03	17.24	6.90	27.59	17.24	17.24	6.90	3.45	10.34	44.83				
Digital Equipment (39)	0.00	7.69	28.21	17.95	23.08	20.51	10.26	17.95	15.38	28.21	12.82	15.38				
Honeywell (163)	18.40	25.76	30.06	12.26	6.13	7.36	41.71	23.92	8.58	7.97	4.90	11.65				
IBM (1075)	5.58	9.63	24.12	19.98	17.01	22.59	27.81	16.83	13.68	10.80	8.01	21.51				
Magnuson (18)	5.56	0.00	44.44	16.67	27.78	5.56	44.44	11.11	16.67	11.11	0.00	16.67				
NAS (34)	2.94	8.82	5.88	17.65	32.35	32.35	11.76	11.76	8.82	5.88	17.65	44.12				
NCR (147)	22.45	25.85	34.01	12.93	3.40	0.68	50.34	17.69	10.88	7.48	3.40	9.52				
Univac (135)	5.19	23.70	33.33	14.07	9.63	12.59	25.19	28.89	14.81	5.19	8.15	11.85				
Other Manufacturers (3)	33.33	0.00	66.67	0.00	0.00	0.00	66.67	0.00	33.33	0.00	0.00	0.00				
All Mainframe Manufacturers (1919)	7.25	14.91	28.38	17.61	13.53	17.25	30.47	18.07	13.02	9.85	7.81	19.14				
<b>MINICOMPUTERS &amp; SMALL BUSINESS COMPUTERS</b>																
Basic Four (37)	0.00	54.05	43.24	2.70	0.00	0.00	59.46	27.03	10.81	0.00	0.00	0.00				
BTI (6)	0.00	33.33	16.67	33.33	0.00	16.67	16.67	50.00	16.67	0.00	0.00	16.67				
Burroughs (52)	15.38	73.08	7.69	0.00	0.00	0.00	69.23	21.15	3.85	1.92	0.00	0.00				
Cado (5)	0.00	100.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00				
Computer Automation (6)	0.00	16.67	16.67	33.33	16.67	0.00	50.00	16.67	0.00	16.67	0.00	0.00				
Datapoint (60)	1.66	56.66	33.33	5.00	0.00	1.66	38.33	33.33	21.66	1.66	1.66	1.66				
Digital Equipment (294)	1.70	33.67	36.73	15.65	6.80	4.76	38.10	29.93	14.29	7.14	2.72	4.42				
Data General (140)	0.00	38.57	49.29	11.43	0.00	0.71	54.29	30.00	7.14	2.86	2.14	1.43				
Four-Phase (27)	0.00	37.04	29.63	18.52	11.11	3.70	70.37	18.52	7.41	0.00	0.00	3.70				
General Automation (12)	16.67	75.00	8.33	0.00	0.00	0.00	66.67	33.33	0.00	0.00	0.00	0.00				
Harris (13)	0.00	38.46	38.46	23.08	0.00	0.00	30.77	15.38	23.08	30.77	0.00	0.00				
Honeywell (29)	13.79	34.48	34.48	13.79	3.45	0.00	55.17	24.14	13.79	0.00	0.00	3.45				
Hewlett-Packard (173)	0.00	25.43	42.77	19.65	11.56	0.58	31.79	37.57	15.03	7.51	4.05	2.89				
IBM (835)	11.51	41.43	37.80	6.76	1.13	0.63	61.20	23.40	8.64	1.75	1.13	0.63				
Mini-Computer Systems (5)	0.00	40.00	60.00	0.00	0.00	0.00	60.00	20.00	20.00	0.00	0.00	0.00				
Microdata (52)	0.00	34.62	51.92	11.54	1.92	0.00	32.69	44.23	15.38	3.85	0.00	3.85				
Modcomp (4)	0.00	0.00	75.00	0.00	0.00	25.00	25.00	25.00	25.00	0.00	0.00	25.00				
NCR (82)	11.90	69.05	14.29	4.76	0.00	0.00	70.24	17.86	4.76	2.38	0.00	1.19				
Nixdorf (7)	0.00	42.86	14.29	14.29	14.29	0.00	28.57	42.86	0.00	0.00	0.00	0.00				
Northern Telecom (12)	0.00	25.00	50.00	25.00	0.00	0.00	41.67	16.67	16.67	8.33	0.00	0.00				
Perkin-Elmer (19)	0.00	26.32	47.37	5.26	15.79	5.26	31.58	36.84	15.79	5.26	0.00	10.53				
Point 4 (9)	0.00	33.33	66.67	0.00	0.00	0.00	22.22	33.33	44.44	0.00	0.00	0.00				
Prime (67)	0.00	16.42	43.28	28.36	8.96	2.99	20.90	32.84	28.36	11.94	4.48	1.49				
Qantel (19)	5.26	47.37	42.11	5.26	0.00	0.00	52.63	31.58	5.26	0.00	0.00	0.00				
Tandem (10)	0.00	20.00	10.00	40.00	20.00	10.00	0.00	20.00	30.00	20.00	0.00	30.00				
Texas Instruments (46)	0.00	58.70	32.61	8.70	0.00	0.00	47.83	45.65	6.52	0.00	0.00	0.00				
Univac (26)	15.38	50.00	19.23	7.69	7.69	0.00	61.54	15.38	7.69	3.85	0.00	11.54				
Wang (97)	5.15	52.58	28.87	7.22	4.12	0.00	71.13	22.68	3.09	1.03	1.03	0.00				
Other Manufacturers (48)	18.92	48.65	24.32	5.41	0.00	0.00	62.16	16.22	2.70	0.00	0.00	5.41				
All Mini/SBC Manufacturers (2192)	6.59	40.90	36.35	10.57	3.46	1.37	51.94	27.16	10.76	3.65	1.52	2.09				
<b>DESKTOP, PERSONAL, &amp; MICROCOMPUTERS</b>																
Alpha Micro (15)	0.00	86.67	6.67	6.67	0.00	0.00	66.67	20.00	6.67	0.00	0.00	0.00				
Altos (10)	30.00	50.00	0.00	0.00	0.00	0.00	70.00	10.00	0.00	0.00	0.00	0.00				
AM Jacquard (4)	0.00	75.00	0.00	0.00	25.00	0.00	75.00	25.00	0.00	0.00	0.00	0.00				
Apple (48)	27.08	64.58	2.08	0.00	2.08	0.00	93.75	2.08	0.00	0.00	0.00	0.00				
Commodore (7)	14.29	71.43	0.00	0.00	0.00	0.00	71.43	14.29	0.00	0.00	0.00	0.00				
Cromemco (8)	0.00	100.00	0.00	0.00	0.00	0.00	50.00	37.50	12.50	0.00	0.00	0.00				
Heath (4)	0.00	100.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00				
Hewlett-Packard (4)	0.00	75.00	0.00	0.00	0.00	0.00	75.00	25.00	0.00	0.00	0.00	0.00				
IBM (30)	53.33	43.33	3.33	0.00	0.00	0.00	96.67	3.33	0.00	0.00	0.00	0.00				
IMSAI (7)	14.29	85.71	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00				
Intertec (6)	66.67	16.67	0.00	0.00	0.00	0.00	66.67	16.67	0.00	0.00	0.00	0.00				
North Star (14)	0.00	85.71	7.14	7.14	0.00	0.00	78.57	21.43	0.00	0.00	0.00	0.00				
Ohio Scientific (9)	0.00	100.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00				
Pertec (9)	11.11	44.44	22.22	11.11	0.00	0.00	77.78	0.00	11.11	0.00	0.00	0.00				
Processor Technology (4)	50.00	50.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00				
Radio Shack (70)	31.43	57.14	4.29	0.00	0.00	0.00	77.14	17.14	1.43	0.00	0.00	0.00				
Vector Graphic (11)	0.00	90.91	0.00	0.00	0.00	0.00	81.82	9.09	0.00	0.00	0.00	0.00				
Other Manufacturers (77)	11.69	74.03	9.09	2.59	0.00	1.30	72.72	20.77	5.19	0.00	0.00	1.29				
All Micro Manufacturers (337)	19.22	65.97	8.31	1.56	0.78	0.26	78.44	14.55	3.12	0.00	0.00	0.52				

Note: Numbers in parentheses indicate number of user responses; all other figures are percentages of corresponding users of each make.

## User Ratings of Computer Systems

### ► PLANNED ACQUISITIONS FOR 1981

We wanted to know how users were planning on spending their enhancement/acquisition dollars in 1981. Figure 4 shows the user rankings of planned acquisitions for 1981. Mainframe, PCM, minicomputer, SBC, desktop, personal, and microcomputer users alike are planning on acquiring or implementing expanded data communications capabilities, expanding their present hardware, adding proprietary software, and adding software from the manufacturer. This certainly portrays a picture of aggressive growth and application optimism.

Mainframes and Plug-Compatible Mainframes	Minicomputers and Small Business Computers	Desktop, Personal, and Microcomputers
<ol style="list-style-type: none"> <li>1. Expansions to Data Comm.</li> <li>2. Expansions to present hardware</li> <li>3. Additional proprietary software</li> <li>4. Additional software from mfr.</li> </ol>	<ol style="list-style-type: none"> <li>1. Expansions to present hardware</li> <li>2. Expansions to Data Comm.</li> <li>3. Additional proprietary software</li> <li>4. Additional software from mfr.</li> </ol>	<ol style="list-style-type: none"> <li>1. Additional proprietary software</li> <li>2. Expansions to present hardware</li> <li>3. Expansions to Data Comm.</li> <li>4. Additional software from mfr.</li> </ol>

Figure 4. User rankings of planned acquisitions for 1981

### EXPECTED SYSTEM REPLACEMENTS

Another indicator of the economy is whether or not users are expecting to replace their systems in 1981. Our studies show that 25% of the mainframe and PCM users plan to replace their systems in 1981, with 18% of this group staying with the current manufacturer. Three percent of the mainframe and PCM users plan to go to a different vendor, while 4% plan a change with the vendor unknown at this time. Twenty percent of the mini and SBC users plan to replace their systems this year, with only 11% planning to remain with the same manufacturer. Eighteen percent of the desktop, personal, and microcomputer users plan replacements in 1981, with 7% planning to switch to a different vendor.

### SIGNIFICANT ADVANTAGES/PROBLEMS

Determining the experiences users are having with their systems is a critical part in any computer system acquisition decision. The issues which, if going well, appear at the top of a user satisfaction list, are the same issues which, if not going well, will appear at the top of a significant problems list. The major issues are the same whatever the system size.

Figure 5 shows the User Rankings of the Most Significant Advantages and the Most Significant Problems.

The most significant advantage cited by the mainframe and PCMs users is "programs/data carried over from other systems are compatible, as vendor promised." "System is easy to expand/reconfigure" placed second among the mainframe and PCM users. "Users are happy with response time" ranked second with the mini, SBC, desktop, personal and microcomputer users and third with the mainframe and PCM users. Fourth on the mainframe and PCMs list is "terminals/peripherals carried over from other systems are compatible, as vendor promised."

Also appearing on all lists (third in minis and SBCs and fifth in both mainframes, PCMs and desktop, personal and microcomputers) is "productivity aids help us keep programming cost down." Another item appearing on all lists (third in desktop, personal, and microcomputers, fifth in minis and SBCs, and sixth in mainframes and PCMs) is "system is power/energy efficient." "Database language is efficient and effective" appears on the mini and SBC list. Interestingly, this advantage does not appear on the mainframe and PCM list.

The most significant problem according to the mainframe and PCM users is "vendor enhancements/changes to hardware/software are hard to keep up with." This

Mainframes and Plug-Compatible Mainframes	Minicomputers and Small Business Computers	Desktop, Personal, and Microcomputers
<b>Most Significant Advantages</b>	<b>Most Significant Advantages</b>	<b>Most Significant Advantages</b>
<ol style="list-style-type: none"> <li>1. Programs/data carried over from other systems are compatible, as vendor promised</li> <li>2. System is easy to expand/reconfigure</li> <li>3. Users are happy with response time</li> <li>4. Terminals/peripherals carried over from other systems are compatible, as vendor promised</li> <li>5. Productivity aids help us keep programming cost down</li> <li>6. System is power/energy efficient</li> </ol>	<ol style="list-style-type: none"> <li>1. System is easy to expand/reconfigure</li> <li>2. Users are happy with response time</li> <li>3. Productivity aids help us keep programming cost down</li> <li>4. Programs/data carried over from other systems are compatible, as vendor promised</li> <li>5. System is power/energy efficient</li> <li>6. Database language is efficient and effective</li> </ol>	<ol style="list-style-type: none"> <li>1. System is easy to expand/reconfigure</li> <li>2. Users are happy with response time</li> <li>3. System is power/energy efficient</li> <li>4. System costs are less than expected</li> <li>5. Productivity aids help us keep programming costs down</li> <li>6. Programs/data carried over from other systems are compatible, as vendor promised</li> </ol>
<b>Most Significant Problems</b>	<b>Most Significant Problems</b>	<b>Most Significant Problems</b>
<ol style="list-style-type: none"> <li>1. Vendor enhancements/changes to hardware/software are hard to keep up with</li> <li>2. Vendor did not provide all the promised software or support</li> <li>3. Power and/or cooling requirements are excessive</li> <li>4. Installation of equipment was late</li> <li>5. System costs (for hardware, vendor-supplied software, support) exceeded expected total</li> <li>6. Delivery of required software was late</li> </ol>	<ol style="list-style-type: none"> <li>1. Vendor did not provide all the promised software or support</li> <li>2. Installation of equipment was late</li> <li>3. Computer proposed by vendor was too small</li> <li>4. Vendor enhancements/changes to hardware/software are hard to keep up with</li> <li>5. Delivery of required software was late</li> <li>6. System costs (for hardware, vendor-supplied software, support) exceeded expected costs</li> </ol>	<ol style="list-style-type: none"> <li>1. Vendor did not provide all the promised software or support</li> <li>2. Delivery of required software was late</li> <li>3. Installation of equipment was late</li> <li>4. Vendor enhancements/changes to hardware/software are hard to keep up with</li> <li>5. System costs (for hardware, vendor-supplied software, support) exceeded expected total</li> <li>6. Program/data compatibility was not what vendor promised</li> </ol>

Figure 5. User ranking of most significant advantages and most significant problems

## User Ratings of Computer Systems

► problem ranked fourth with the mini, SBC, desktop, personal, and microcomputer users. Incorporating changes, even though they are necessary and desirable, can consume a great deal of the technical staff's time, as well as potentially disrupt operations.

Another significant problem on all lists in Figure 5 is "vendor did not provide all the promised software or support." Users ranked this problem first for minis, SBCs, desktop, personal and microcomputers and second for mainframes and PCMs. The wise user will make sure that the promised software and support from the vendor are written into the contract.

"Installation of equipment was late" is the second most significant problem for users of minis and SBCs, third for users of desktop, personal, and microcomputers, and fourth for users of mainframes and PCMs. This problem significantly impacts conversion activities and schedules.

Also appearing on all lists of significant problems is "delivery of required software was late" (second in desktop, personal and microcomputers, fifth in minis and SBCs, and sixth in mainframes and PCMs). This can also significantly impact the user's schedules.

The fifth most significant problem for both mainframers and PCMs and for desktop, personal, and microcomputers (sixth for minis and SBCs) is "system costs (for hardware, vendor-supplied software, support) exceeded the expected total." In today's economy it is difficult to keep a handle on the rising costs and this has an impact on both the vendor and the users.

## USER SATISFACTION RATINGS

Consistent with our belief that what users think is extremely important, we asked users to rate their computer systems and the associated software and vendor support by assigning a rating of Excellent, Good, Fair, or Poor to each of 14 factors: ease of operation, reliability of mainframe, reliability of peripherals, maintenance service (responsiveness and effectiveness), technical support (trouble-shooting, education, and documentation), manufacturer's software (operating system, compilers & assemblers, and applications programs), ease of programming, ease of conversion, and overall satisfaction. All ratings are expressed in terms of Weighted Averages, which were calculated by assigning a weight of 4 to each user rating of Excellent, 3 to Good, 2 to Fair, and 1 to Poor, and then dividing the sum by the number of users who rated each factor.

The individual responses by vendor model appear in the following tables. However, we thought again it would be interesting to determine the overall weighted averages of all three classes and compare them to the weighted averages from last year. The results appear in Figure 6. The Overall User Satisfaction Ratings in mainframes and PCMs show virtually no change, while there was a slight improvement in minis and SBCs and a significant improvement in desktop, personal, and microcomputers. There were noticeable improvements in all three classes of

	Mainframes & PCMs		Minis & SBCs		Desktop, Personal & Microcomputers	
	1981	1980	1981	1980	1981	1980
Ease of operation	3.3	3.4	3.5	3.4	3.6	3.4
Reliability of mainframe	3.5	3.3	3.6	3.3	3.7	3.5
Reliability of peripherals	3.1	2.8	3.3	3.1	3.4	3.2
Maintenance service:						
Responsiveness	3.2	3.1	3.2	2.9	2.7	2.9
Effectiveness	3.1	2.9	3.1	2.9	2.4	3.0
Technical support:						
Trouble-shooting	2.7	2.7	2.8	2.6	2.4	2.8
Education	2.7	2.6	2.7	2.4	2.4	2.5
Documentation	2.6	2.1	2.7	2.5	2.3	2.6
Manufacturer's software:						
Operating system	3.1	3.2	3.3	3.3	2.4	3.1
Compilers & assemblers	3.2	3.0	3.2	2.9	3.4	2.8
Applications programs	2.7	2.7	2.8	2.8	2.6	2.6
Ease of programming	3.1	3.2	3.3	2.8	3.5	3.3
Ease of conversion	3.0	3.0	3.0	2.7	3.0	2.9
Overall satisfaction	3.1	3.1	3.2	3.1	3.5	3.2

Figure 6. User satisfaction ratings, 1981 and 1980

equipment in the reliability of mainframes and the reliability of peripherals. The newer technology used in the latest systems appears to be more reliable.

## SYSTEM EXPECTATIONS

We asked the computer system users, "Did the system do what you expected it to do?". Eighty-nine percent answered "Yes," 4% said "No," and 7% said "Haven't decided" in the mainframes and PCMs class. In the minicomputers and SBCs class 88% said "Yes," 5% said "No" and 7% answered "Haven't decided." Of the desktop, personal, and microcomputer users, 86% voted "Yes," 6% voted "No," and 7% "Haven't decided."

## SYSTEM RECOMMENDATIONS

The final question we asked users was whether they would recommend the system to another user in their situation. Most said they would: 80% of the mainframe and PCM users said "Yes," as did 83% of the mini and SBC users and 80% of the desktop, personal, and microcomputer users. We thought it would be interesting to list the vendors that received the highest overall percentages of user recommendations. The results are:

Mainframes and PCMs	Minicomputers and SBCs	Desktop, Personal and Microcomputers
Amdahl 97%	BTI 100%	Altos 100%
Magnuson 94%	Nixdorf 100%	Commodore 100%
NAS 91%	Point 4 100%	Hewlett-Packard 100%
	Hewlett-Packard 92%	Apple 94%
	Texas Instruments 91%	Vector Graphics 91%

## THANK YOU

Datapro extends a sincere thanks to all for responding so enthusiastically to our 1981 survey of user experiences with computer systems. Without your participation it could not have been the terrific success it is, and we hope that this compendium of the opinions of user colleagues will be of significant value to you. We look forward to hearing from you again next year.

# User Ratings of Computer Systems

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

Survey Item	Manufacturer and Model	Amdahl 470 V/5	Amdahl 470 V/6	Amdahl 470 V/6-II	Amdahl 470 V/7	Amdahl 470 V/8	Burroughs B 1700	Burroughs B 1800	Burroughs B 1855	Burroughs B 1900
No. of User Responses		4	8	7	4	7	20	41	50	16
No. of Systems Represented		4	10	10	5	12	21	51	52	18
Avg. Life of System (Mos.)		20.0	37.7	32.0	11.3	10.4	47.5	20.3	15.5	4.8
Acquisition Method (%)										
Purchase		25.00	62.50	85.71	50.00	71.43	75.00	66.67	50.00	37.50
Rental or Lease from Mfr.		25.00	25.00	0.00	50.00	0.00	25.00	25.64	50.00	62.50
Lease from 3rd Party		50.00	12.50	14.29	0.00	28.57	0.00	7.69	0.00	0.00
Principal Applications (%)										
Accounting/Billing		75.00	50.00	100.00	50.00	100.00	80.00	70.73	76.00	87.50
Banking-check processing/loans/savings		0.00	25.00	28.57	25.00	14.29	20.00	26.83	14.00	12.50
Construction/Architecture		0.00	50.00	14.29	0.00	0.00	5.00	0.00	6.00	6.25
Education-scheduling/administration		0.00	50.00	14.29	25.00	0.00	0.00	9.76	8.00	12.50
Engineering/Scientific		25.00	37.50	28.57	25.00	42.86	0.00	2.44	4.00	6.25
Health care/Medical		50.00	0.00	28.57	25.00	14.29	5.00	4.88	6.00	6.25
Insurance		0.00	12.50	14.29	25.00	14.29	5.00	12.20	2.00	18.75
Manufacturing		25.00	12.50	0.00	0.00	28.57	20.00	17.07	20.00	31.25
Mathematics/Statistics		25.00	37.50	42.86	25.00	28.57	0.00	12.20	2.00	0.00
Order Processing/Inventory Control		50.00	62.50	28.57	25.00	42.86	55.00	46.34	46.00	56.25
Payroll/Personnel		75.00	50.00	100.00	50.00	57.14	30.00	48.78	72.00	68.75
Petroleum/Fuel analysis		0.00	12.50	0.00	0.00	0.00	0.00	9.76	2.00	0.00
Process control		25.00	12.50	0.00	0.00	0.00	0.00	0.00	4.00	6.25
Purchasing		25.00	62.50	71.43	25.00	42.86	40.00	21.95	28.00	43.75
Sales Distribution		25.00	25.00	28.57	0.00	57.14	25.00	34.15	34.00	25.00
Other		50.00	12.50	71.43	25.00	28.57	20.00	21.95	20.00	25.00
Source of Applications Programs (%)										
In-house personnel		100.00	100.00	100.00	100.00	100.00	75.00	90.24	92.00	93.75
"Ready-made" programs from manufacturer		25.00	37.50	57.14	0.00	14.29	35.00	36.59	36.00	43.75
Contract Programming		50.00	50.00	71.43	25.00	28.57	30.00	39.02	24.00	62.50
Manufacturer's Personnel		0.00	12.50	14.29	0.00	0.00	0.00	2.44	0.00	6.25
Proprietary Software Packages		75.00	62.50	85.71	25.00	42.86	25.00	36.59	28.00	37.50
Location of Computer (%)										
Distributed Processing Site		0.00	0.00	0.00	0.00	0.00	5.00	7.50	0.00	6.25
Central Processing Installation		100.00	100.00	100.00	100.00	100.00	95.00	92.50	100.00	93.75
Using Local Workstations/Terminals (%)		100.00	100.00	100.00	100.00	85.71	75.00	97.57	100.00	93.75
Using Remote Workstations/Terminals (%)		100.00	100.00	100.00	100.00	100.00	20.00	56.10	56.00	68.75
Using Data Base Management System (%)		100.00	75.00	100.00	100.00	100.00	20.00	43.90	48.00	56.25
None		0.00	25.00	0.00	0.00	0.00	80.00	56.10	52.00	43.75
Manufacturer's Package		25.00	33.00	42.86	25.00	42.86	75.00	83.33	87.50	88.89
Outside Vendor's Package		75.00	66.67	57.14	75.00	42.86	25.00	0.00	4.17	0.00
Home-Grown System		0.00	0.00	0.00	0.00	14.29	0.00	16.67	8.33	11.11
Using Communications Monitor (%)		100.00	75.00	100.00	100.00	100.00	30.00	65.85	60.00	81.25
None		0.00	25.00	0.00	0.00	0.00	65.00	31.71	38.00	18.75
Manufacturer's Package		0.00	0.00	0.00	0.00	0.00	100.00	85.19	86.67	92.31
Outside Vendor's Package		25.00	33.33	57.14	33.33	57.14	0.00	3.70	3.33	0.00
Home-Grown System		75.00	66.67	42.86	66.67	42.86	0.00	11.11	10.00	7.69
Using Integrated Word Processing Functions (%)		100.00	12.50	10.00	125.00	75.00	10.00	9.76	12.00	12.50
Planned Acquisitions/Implementations for 1981 (%)										
Additional Software from the Manufacturer		25.00	37.50	57.14	0.00	71.43	5.00	31.71	30.00	43.75
Proprietary Software from other suppliers		50.00	75.00	85.71	75.00	71.43	15.00	26.83	24.00	31.25
Expansions to Data Communications facilities		25.00	62.50	71.43	75.00	85.71	30.00	60.98	60.00	75.00
Distributed Processing capabilities		50.00	62.50	57.14	25.00	57.14	0.00	17.07	6.00	12.50
Expansions to present hardware		25.00	75.00	100.00	50.00	85.71	35.00	51.22	50.00	56.25
Another Computer System, same model		25.00	25.00	0.00	0.00	0.00	5.00	4.88	4.00	18.75
Integrated Word Processing capabilities		25.00	12.50	14.29	25.00	28.57	10.00	14.63	8.00	18.75
Plans for system replacement in 1981 (%)										
Yes, same manufacturer		0.00	0.00	0.00	25.00	0.00	35.00	19.51	2.00	18.75
Yes, vendor unknown		0.00	25.00	28.57	0.00	0.00	5.00	4.88	2.00	0.00
Yes, different vendor		0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00
No		100.00	75.00	71.43	75.00	100.00	45.00	75.61	96.00	75.61

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

Manufacturer and Model									
Survey Item									
Amdahl 470 V/5									
Amdahl 470 V/6									
Amdahl 470 V/6-II									
Amdahl 470 V/7									
Amdahl 470 V/8									
Burroughs B 1700									
Burroughs B 1800									
Burroughs B 1855									
Burroughs B 1900									
Significant Advantages (%)									
Users are happy with response time									
System is easy to expand/reconfigure									
System costs were less than expected									
Programs/data carried over from other systems are compatible, as vendor promised									
Terminals/peripherals carried over from other systems are compatible, as vendor promised									
System is power/energy efficient									
Productivity aids help us keep programming costs down									
Data base language is efficient and effective									
Delivery and/or installation of equipment was ahead of schedule									
Delivery of required software was ahead of schedule									
Significant Problems (%)									
Computer proposed by vendor was too small									
Installation of equipment was late									
Delivery of required software was late									
System costs (for hardware, vendor-supplied software, support) exceeded the expected total									
Vendor did not provide all the promised software or support									
Program/data compatibility not what vendor promised									
Terminals/peripherals compatibility not what vendor promised									
Vendor enhancements/changes to hardware/software hard to keep up with									
Equipment is excessively noisy									
Power and/or cooling requirements are excessive									
System Ratings (4.0-0.0)									
Ease of operation									
Reliability of Mainframe									
Reliability of Peripherals									
Maintenance service:									
Responsiveness									
Effectiveness									
Technical support:									
Trouble-shooting									
Education									
Documentation									
Manufacturer's software:									
Operating system									
Compilers & Assemblers									
Applications Programs									
Ease of programming									
Ease of conversion									
Overall satisfaction									
Did the system do what you expected it to do? (%)									
Yes									
No									
Haven't decided									
Would you recommend system to another user? (%)									
Yes									
No									
Haven't decided									

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

Survey Item	Burroughs B 2700	Burroughs B 2800	Burroughs B 3700	Burroughs B 3800	Burroughs B 4700	Burroughs B 4800	Burroughs B 6700	Burroughs B 6800	Burroughs B 7800
No. of User Responses	6	20	7	12	9	21	8	21	5
No. of Systems Represented	6	22	8	12	9	27	12	30	8
Avg. Life of System (Mos.)	76.3	23.8	51.7	14.8	57.3	14.6	57.5	17.3	31.6
Acquisition Method (%)									
Purchase	50.00	50.00	42.86	58.33	55.56	38.10	62.50	75.00	40.00
Rental or Lease from Mfr.	50.00	45.00	28.57	25.00	44.44	61.90	37.50	5.00	40.00
Lease from 3rd Party	0.00	5.00	28.57	16.67	0.00	0.00	0.00	20.00	20.00
Principal Applications (%)									
Accounting/Billing	66.67	40.00	71.43	50.00	66.67	71.43	62.50	76.19	100.00
Banking-check processing/loans/savings	16.67	55.00	28.57	50.00	11.11	38.10	0.00	14.29	0.00
Construction/Architecture	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Education-scheduling/administration	16.67	0.00	14.29	8.33	22.22	4.76	50.00	28.57	0.00
Engineering/Scientific	0.00	0.00	0.00	0.00	0.00	0.00	12.50	9.52	60.00
Health care/Medical	0.00	10.00	0.00	0.00	0.00	9.52	25.00	4.76	20.00
Insurance	16.67	5.00	0.00	8.33	11.11	4.76	0.00	14.29	0.00
Manufacturing	0.00	0.00	0.00	8.33	11.11	14.29	0.00	14.29	60.00
Mathematics/Statistics	0.00	0.00	0.00	8.33	0.00	9.52	25.00	23.81	20.00
Order Processing/Inventory Control	16.67	25.00	42.86	25.00	22.22	47.62	12.50	47.62	80.00
Payroll/Personnel	50.00	45.00	57.14	58.33	33.33	47.62	50.00	52.38	80.00
Petroleum/Fuel analysis	0.00	0.00	0.00	8.33	0.00	0.00	0.00	4.76	20.00
Process control	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Purchasing	33.33	10.00	0.00	25.00	33.33	19.05	62.50	33.33	100.00
Sales Distribution	33.33	10.00	42.86	8.33	22.22	23.81	12.50	23.81	80.00
Other	33.33	20.00	57.14	16.67	33.33	28.57	37.50	23.81	20.00
Source of Applications Programs (%)									
In-house personnel	100.00	80.00	71.43	91.67	100.00	100.00	100.00	100.00	100.00
"Ready-made" programs from manufacturer	16.67	15.00	28.57	41.67	22.22	38.10	12.50	28.57	20.00
Contract Programming	33.33	5.00	14.29	33.33	11.11	28.57	12.50	47.62	20.00
Manufacturer's Personnel	0.00	5.00	0.00	8.33	0.00	9.52	12.50	4.76	0.00
Proprietary Software Packages	33.33	30.00	28.57	75.00	11.11	57.14	25.00	47.62	40.00
Location of Computer (%)									
Distributed Processing Site	0.00	10.00	0.00	0.00	0.00	5.00	0.00	4.76	0.00
Central Processing Installation	100.00	90.00	100.00	100.00	100.00	95.00	100.00	95.24	100.00
Using Local Workstations/Terminals (%)	83.33	95.00	100.00	100.00	100.00	95.24	87.50	100.00	100.00
Using Remote Workstations/Terminals (%)	83.33	55.00	57.15	91.67	33.33	80.94	87.50	95.24	100.00
Using Data Base Management System (%)	16.67	30.00	28.57	33.33	44.44	42.86	62.50	76.19	100.00
None	83.33	65.00	71.43	66.67	55.56	57.14	37.50	23.81	0.00
Manufacturer's Package	100.00	100.00	100.00	100.00	75.00	87.50	100.00	100.00	100.00
Outside Vendor's Package	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Home-Grown System	0.00	0.00	0.00	0.00	25.00	12.50	0.00	0.00	0.00
Using Communications Monitor (%)	66.67	55.00	71.43	50.00	55.56	71.43	75.00	95.24	100.00
None	33.33	45.00	28.57	50.00	44.44	23.81	12.50	4.76	0.00
Manufacturer's Package	100.00	100.00	100.00	100.00	40.00	60.00	66.67	70.00	80.00
Outside Vendor's Package	0.00	0.00	0.00	0.00	20.00	26.67	0.00	5.00	0.00
Home-Grown System	0.00	0.00	0.00	0.00	40.00	13.33	33.33	25.00	20.00
Using Integrated Word Processing Functions (%)	0.00	0.00	0.00	8.33	0.00	4.76	12.50	23.81	20.00
Planned Acquisitions/Implementations for 1981 (%)									
Additional Software from the Manufacturer	16.67	10.00	42.86	41.67	55.56	42.86	12.50	33.33	40.00
Proprietary Software from other suppliers	16.67	35.00	57.14	58.33	22.22	61.90	0.00	38.10	40.00
Expansions to Data Communications facilities	50.00	30.00	42.86	75.00	55.56	66.67	87.50	33.33	60.00
Distributed Processing capabilities	0.00	0.00	42.86	8.33	11.11	23.81	25.00	14.29	60.00
Expansions to present hardware	16.67	45.00	71.43	50.00	55.56	57.14	62.50	42.86	60.00
Another Computer System, same model	0.00	0.00	14.29	8.33	0.00	4.76	0.00	9.52	20.00
Integrated Word Processing capabilities	0.00	5.00	0.00	0.00	22.22	9.52	37.50	0.00	60.00
Plans for system replacement in 1981 (%)									
Yes, same manufacturer	50.00	25.00	42.86	8.33	44.44	4.76	37.50	0.00	0.00
Yes, vendor unknown	0.00	5.00	0.00	0.00	11.11	0.00	12.50	0.00	0.00
Yes, different vendor	0.00	0.00	14.29	0.00	0.00	4.76	0.00	4.76	0.00
No	50.00	70.00	28.57	91.67	44.44	90.48	50.00	95.24	100.00

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

										Manufacturer and Model
										Survey Item
Burroughs B 2700	Burroughs B 2800	Burroughs B 3700	Burroughs B 3800	Burroughs B 4700	Burroughs B 4800	Burroughs B 6700	Burroughs B 6800	Burroughs B 7800		
16.67	40.00	42.86	58.33	33.33	57.14	37.50	66.67	40.00		Significant Advantages (%)
50.00	75.00	85.71	83.33	66.67	85.71	62.50	85.71	80.00		Users are happy with response time
33.33	25.00	28.57	33.33	11.11	14.29	12.50	9.52	20.00		System is easy to expand/reconfigure
16.67	60.00	71.43	100.00	66.67	76.19	12.50	28.57	80.00		System costs were less than expected
										Programs/data carried over from other systems are compatible, as vendor promised
16.67	35.00	42.86	75.00	66.67	66.67	25.00	47.62	40.00		Terminals/peripherals carried over from other systems are compatible, as vendor promised
0.00	20.00	14.29	33.33	0.00	23.81	0.00	9.52	0.00		System is power/energy efficient
50.00	25.00	57.14	25.00	33.33	23.81	50.00	42.86	20.00		Productivity aids help us keep programming costs down
0.00	25.00	14.29	16.67	33.33	9.52	50.00	71.43	60.00		Data base language is efficient and effective
0.00	15.00	0.00	16.67	11.11	0.00	12.50	4.76	0.00		Delivery and/or installation of equipment was ahead of schedule
0.00	5.00	0.00	0.00	0.00	0.00	0.00	9.52	0.00		Delivery of required software was ahead of schedule
0.00	0.00	0.00	0.00	0.00	4.76	25.00	14.29	20.00		Significant Problems (%)
16.67	50.00	42.86	50.00	11.11	85.71	12.50	28.57	0.00		Computer proposed by vendor was too small
16.67	0.00	0.00	0.00	0.00	23.81	12.50	14.29	0.00		Installation of equipment was late
0.00	0.00	0.00	0.00	0.00	14.29	25.00	14.29	0.00		Delivery of required software was late
										System costs (for hardware, vendor-supplied software, support) exceeded the expected total
0.00	25.00	14.29	8.33	0.00	28.57	25.00	28.57	0.00		Vendor did not provide all the promised software or support
0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.76	0.00		Program/data compatibility not what vendor promised
0.00	5.00	0.00	0.00	0.00	4.76	0.00	9.52	0.00		Terminals/peripherals compatibility not what vendor promised
0.00	5.00	0.00	8.33	11.11	9.52	0.00	9.52	0.00		Vendor enhancements/changes to hardware/software hard to keep up with
33.33	5.00	28.57	0.00	22.22	9.52	12.50	4.76	0.00		Equipment is excessively noisy
33.33	15.00	42.86	0.00	55.56	9.52	37.50	14.29	0.00		Power and/or cooling requirements are excessive
3.67	3.55	3.86	3.83	3.67	3.67	3.88	3.38	3.80		System Ratings (4.0-0.0)
3.33	3.55	3.43	3.58	3.33	3.45	3.13	3.33	3.60		Ease of operation
2.50	2.80	2.71	2.75	2.78	2.57	2.88	2.48	3.00		Reliability of Mainframe
										Reliability of Peripherals
2.67	2.90	2.57	3.00	2.67	2.76	3.00	2.86	3.20		Maintenance service:
2.67	2.65	2.57	2.75	2.89	2.43	2.75	2.38	3.00		Responsiveness
										Effectiveness
2.17	2.15	2.43	2.42	2.78	2.10	2.50	2.40	2.80		Technical support:
2.17	2.16	2.14	2.08	2.78	1.95	2.38	2.24	2.20		Trouble-shooting
2.00	2.15	2.00	2.08	2.67	2.00	2.63	1.86	2.60		Education
										Documentation
3.83	3.70	4.00	3.75	3.67	3.67	3.88	3.71	3.80		Manufacturer's software:
3.00	3.30	3.43	3.42	3.67	3.24	3.88	3.38	3.80		Operating system
2.25	2.83	2.33	2.36	2.86	2.47	2.67	2.40	2.67		Compilers & Assemblers
										Applications Programs
3.50	3.55	3.67	3.55	3.67	3.48	3.88	3.43	3.60		Ease of programming
2.80	3.29	2.86	3.70	3.22	3.33	3.57	3.05	3.50		Ease of conversion
3.00	3.30	3.14	3.25	3.33	3.05	3.25	2.90	3.20		Overall satisfaction
100.00	95.00	100.00	100.00	100.00	90.48	87.50	71.43	100.00		Did the system do what you expected it to do? (%)
0.00	5.00	0.00	0.00	0.00	9.52	12.50	9.52	0.00		Yes
0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.05	0.00		No
										Haven't decided
66.67	90.00	100.00	91.67	66.67	85.71	75.00	66.67	80.00		Would you recommend system to another user? (%)
33.33	5.00	0.00	0.00	22.22	9.52	25.00	19.05	0.00		Yes
0.00	5.00	0.00	8.33	11.11	4.76	0.00	14.29	20.00		No
										Haven't decided

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

Survey Item	Manufacturer and Model	Burroughs (other models)	Control Data Cyber 170	Control Data Omega 480	Control Data (other models)	DEC DECsystem-10	DEC DECsystem-20	Honeywell Level 62	Honeywell Level 64	Honeywell Level 66
No. of User Responses	10	12	9	8	15	24	54	27	32	
No. of Systems Represented	11	15	14	11	22	27	58	28	39	
Avg. Life of System (Mos.)	25.3	18.1	21.1	59.8	59.7	26.3	35.3	31.0	37.5	
Acquisition Method (%)										
Purchase	50.00	33.33	88.89	100.00	80.00	83.33	37.04	55.56	59.38	
Rental or Lease from Mfr.	50.00	66.67	11.11	0.00	6.67	0.00	57.41	40.74	25.00	
Lease from 3rd Party	0.00	0.00	0.00	0.00	13.33	16.67	5.55	3.70	15.62	
Principal Applications (%)										
Accounting/Billing	60.00	75.00	55.56	62.50	73.33	79.17	88.89	92.59	90.63	
Banking-check processing/loans/savings	10.00	0.00	22.22	12.50	0.00	4.17	9.26	7.41	9.38	
Construction/Architecture	0.00	16.67	11.11	12.50	0.00	8.33	5.56	0.00	9.38	
Education-scheduling/administration	20.00	58.33	0.00	50.00	66.67	29.17	3.70	3.70	21.88	
Engineering/Scientific	20.00	58.33	11.11	62.50	26.67	37.50	5.56	3.70	9.38	
Health care/Medical	0.00	8.33	11.11	0.00	20.00	8.33	7.41	11.11	9.38	
Insurance	10.00	0.00	22.22	0.00	0.00	4.17	3.70	0.00	3.13	
Manufacturing	0.00	16.67	11.11	12.50	13.33	12.50	27.78	37.04	21.88	
Mathematics/Statistics	30.00	41.67	0.00	50.00	53.33	41.67	5.56	7.41	21.88	
Order Processing/Inventory Control	40.00	33.33	33.33	25.00	33.33	37.50	62.96	62.96	18.75	
Payroll/Personnel	60.00	58.33	55.56	25.00	66.67	45.83	62.96	81.48	75.00	
Petroleum/Fuel analysis	0.00	0.00	0.00	0.00	0.00	4.17	3.70	3.70	0.00	
Process control	0.00	8.33	11.11	12.50	6.67	0.00	3.70	0.00	0.00	
Purchasing	30.00	16.67	33.33	37.50	26.67	29.17	37.04	25.93	46.88	
Sales Distribution	0.00	16.67	11.11	25.00	6.67	20.83	59.26	48.15	28.13	
Other	40.00	0.00	11.11	25.00	40.00	33.33	16.67	44.44	15.63	
Source of Applications Programs (%)										
In-house personnel	90.00	100.00	88.89	100.00	100.00	100.00	94.44	100.00	100.00	
"Ready-made" programs from manufacturer	40.00	33.33	22.22	37.50	20.00	29.17	31.48	40.74	34.38	
Contract Programming	50.00	8.33	33.33	37.50	20.00	45.83	37.04	22.22	31.25	
Manufacturer's Personnel	20.00	16.67	0.00	25.00	6.67	12.50	14.81	7.41	21.88	
Proprietary Software Packages	20.00	50.00	44.44	37.50	46.67	58.33	14.81	29.63	46.88	
Location of Computer (%)										
Distributed Processing Site	0.00	8.33	0.00	0.00	6.67	4.17	1.85	3.70	0.00	
Central Processing Installation	100.00	91.67	100.00	100.00	93.33	95.83	98.15	96.30	100.00	
Using Local Workstations/Terminals (%)	100.00	100.00	100.00	100.00	93.33	100.00	83.33	92.59	96.88	
Using Remote Workstations/Terminals (%)	50.00	91.67	77.78	75.00	86.67	91.67	98.15	100.00	96.88	
Using Data Base Management System (%)										
None	60.00	58.33	77.78	37.50	60.00	50.00	20.37	18.52	78.13	
Manufacturer's Package	40.00	41.67	22.22	62.50	40.00	45.83	79.63	81.48	21.87	
Outside Vendor's Package	50.00	85.71	14.29	33.33	42.86	50.00	54.55	60.00	100.00	
Home-Grown System	16.67	0.00	71.43	66.67	14.29	50.00	18.18	20.00	0.00	
Using Communications Monitor (%)										
None	60.00	75.00	100.00	62.50	40.00	50.00	62.96	59.26	65.63	
Manufacturer's Package	40.00	25.00	0.00	37.50	60.00	45.83	33.33	37.04	31.25	
Outside Vendor's Package	83.33	88.89	11.11	40.00	50.00	91.67	76.47	87.50	66.67	
Home-Grown System	0.00	11.11	66.67	40.00	16.67	8.33	14.71	6.25	19.05	
Using Integrated Word Processing Functions (%)	16.67	0.00	22.22	20.00	33.33	0.00	18.82	6.25	14.28	
Planned Acquisitions/Implementations for 1981 (%)										
Additional Software from the Manufacturer	20.00	33.33	33.33	12.50	20.00	4.17	11.11	33.33	50.00	
Proprietary Software from other suppliers	0.00	25.00	66.67	12.50	40.00	54.17	7.41	29.63	28.13	
Expansions to Data Communications facilities	40.00	66.67	55.56	37.50	40.00	41.67	46.30	55.56	68.75	
Distributed Processing capabilities	20.00	8.33	11.11	0.00	20.00	16.67	18.52	18.52	31.25	
Expansions to present hardware	30.00	58.33	55.56	50.00	53.33	62.50	50.00	48.15	65.63	
Another Computer System, same model	0.00	16.67	0.00	12.50	6.67	4.17	0.00	0.00	3.13	
Integrated Word Processing capabilities	40.00	0.00	0.00	12.50	20.00	20.83	1.85	11.11	3.13	
Plans for system replacement in 1981 (%)										
Yes, same manufacturer	10.00	25.00	0.00	0.00	13.33	4.17	9.26	7.41	12.50	
Yes, vendor unknown	0.00	0.00	0.00	12.50	26.67	0.00	5.56	0.00	0.00	
Yes, different vendor	0.00	8.33	22.22	0.00	0.00	0.00	3.70	7.41	3.13	
No	90.00	66.67	77.78	87.50	60.00	95.83	81.48	85.19	84.37	

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

Burroughs (other models)	Control Data Cyber 170	Control Data Omega 480	Control Data (other models)	DEC DECSYSTEM-10	DEC DECSYSTEM-20	Honeywell Level 62	Honeywell Level 64	Honeywell Level 66	Manufacturer and Model	
									Survey Item	
50.00	83.33	33.33	87.50	73.33	66.67	53.70	37.04	62.50	Significant Advantages (%)	
66.67	66.67	55.56	75.00	53.33	70.83	53.70	62.96	71.88	Users are happy with response time	
33.33	8.33	44.44	0.00	6.67	16.67	18.52	14.81	6.25	System is easy to expand/reconfigure	
66.67	33.33	77.78	37.50	46.67	29.17	35.19	44.44	37.50	System costs were less than expected	
									Programs/data carried over from other systems are compatible, as vendor promised	
66.67	41.67	77.78	25.00	46.67	33.33	3.70	33.33	18.75	Terminals/peripherals carried over from other systems are compatible, as vendor promised	
20.00	25.00	77.78	12.50	6.67	12.50	9.26	18.52	9.38	System is power/energy efficient	
0.00	33.33	0.00	25.00	60.00	75.00	9.26	29.63	25.00	Productivity aids help us keep programming costs down	
33.33	16.67	0.00	12.50	13.33	33.33	11.11	11.11	28.13	Data base language is efficient and effective	
0.00	0.00	22.22	0.00	13.33	16.67	11.11	14.81	25.00	Delivery and/or installation of equipment was ahead of schedule	
0.00	8.33	0.00	0.00	13.33	12.50	5.56	7.41	3.13	Delivery of required software was ahead of schedule	
									Significant Problems (%)	
10.00	0.00	0.00	0.00	0.00	8.33	11.11	3.70	9.38	Computer proposed by vendor was too small	
33.33	16.67	11.11	0.00	0.00	12.50	16.67	11.11	15.63	Installation of equipment was late	
10.00	0.00	0.00	0.00	6.67	8.33	14.81	18.52	15.63	Delivery of required software was late	
0.00	0.00	0.00	0.00	0.00	4.17	18.52	7.41	25.00	System costs (for hardware, vendor-supplied software, support) exceeded the expected total	
10.00	8.33	44.44	0.00	6.67	20.83	33.33	14.81	18.75	Vendor did not provide all the promised software or support	
0.00	0.00	0.00	0.00	0.00	4.17	12.96	7.41	6.25	Program/data compatibility not what vendor promised	
0.00	0.00	22.22	0.00	0.00	0.00	3.70	11.11	9.38	Terminals/peripherals compatibility not what vendor promised	
33.33	25.00	0.00	12.50	13.33	4.17	20.37	7.41	18.75	Vendor enhancements/changes to hardware/software hard to keep up with	
0.00	0.00	0.00	0.00	13.33	16.67	11.11	11.11	12.50	Equipment is excessively noisy	
0.00	16.67	0.00	37.50	26.67	8.33	9.26	11.11	15.63	Power and/or cooling requirements are excessive	
									System Ratings (4.0-0.0)	
3.60	3.17	3.33	3.38	3.73	3.83	3.26	3.33	3.26	Ease of operation	
3.50	3.67	2.56	3.63	3.47	3.42	3.30	3.41	3.60	Reliability of Mainframe	
3.33	3.08	2.38	3.25	2.87	3.04	3.06	3.15	3.03	Reliability of Peripherals	
3.10	3.42	2.78	3.75	3.29	3.25	3.22	3.07	2.97	Maintenance service:	
3.10	3.18	2.25	3.38	2.93	3.25	2.98	3.00	2.63	Responsiveness	
									Effectiveness	
2.80	2.83	2.78	2.88	2.69	2.63	2.52	2.73	2.52	Technical support:	
3.00	2.73	1.86	2.57	2.82	2.63	2.20	2.63	2.50	Trouble-shooting	
2.60	2.75	2.25	2.50	2.53	2.74	2.11	2.52	2.41	Education	
									Documentation	
3.56	3.17	3.00	2.88	3.50	3.63	3.19	3.33	3.52	Manufacturer's software:	
3.11	3.17	3.00	3.00	3.13	3.17	3.21	3.26	3.20	Operating system	
2.75	2.78	2.67	2.80	2.40	2.60	2.47	2.35	2.80	Compilers & Assemblers	
									Applications Programs	
3.44	3.00	3.00	3.13	3.73	3.70	2.98	3.23	3.19	Ease of programming	
3.33	3.20	3.40	3.00	3.54	3.29	2.60	2.88	2.83	Ease of conversion	
3.40	3.17	2.67	3.38	3.47	3.48	2.85	3.07	3.13	Overall satisfaction	
									Did the system do what you expected it to do? (%)	
80.00	91.67	88.89	100.00	100.00	95.83	75.96	74.07	90.63	Yes	
0.00	8.33	0.00	0.00	0.00	4.17	11.11	11.11	6.25	No	
20.00	0.00	11.11	0.00	0.00	0.00	9.26	14.81	3.12	Haven't decided	
									Would you recommend system to another user? (%)	
80.00	83.33	66.67	75.00	86.67	83.33	44.44	74.07	71.88	Yes	
0.00	16.67	22.22	12.50	13.33	12.50	27.78	22.22	12.50	No	
20.00	0.00	11.11	12.50	0.00	0.00	22.22	3.70	9.38	Haven't decided	

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

Survey Item	Manufacturer and Model		Honeywell Series 2000	Honeywell Series 6000	Honeywell, Xerox Sigma Series	Honeywell (other models)	IBM 360/20	IBM 360/30	IBM 360/40	IBM 360/50	IBM 360/65
No. of User Responses	17	12	7	14	5	14	20	11	5		
No. of Systems Represented	17	16	8	16	5	14	20	14	7		
Avg. Life of System (Mos.)	76.2	61.6	87.0	57.2	143.8	83.0	33.8	51.9	73.4		
Acquisition Method (%)											
Purchase	94.12	45.45	71.43	85.71	80.00	71.43	63.16	36.36	80.00		
Rental or Lease from Mfr.	5.88	36.36	14.29	14.29	20.00	0.00	0.00	0.00	0.00	20.00	
Lease from 3rd Party	0.00	18.18	14.29	0.00	0.00	28.57	36.84	63.64	0.00		
Principal Applications (%)											
Accounting/Billing	100.00	58.33	42.86	85.71	100.00	85.71	65.00	81.82	60.00		
Banking-check processing/loans/savings	0.00	8.33	14.29	7.14	20.00	14.29	20.00	9.09	0.00		
Construction/Architecture	0.00	8.33	0.00	7.14	0.00	0.00	15.00	0.00	20.00		
Education-scheduling/administration	17.65	33.33	57.14	28.57	0.00	14.29	5.00	9.09	40.00		
Engineering/Scientific	5.88	25.00	14.29	21.43	0.00	7.14	10.00	18.18	20.00		
Health care/Medical	0.00	25.00	0.00	7.14	20.00	14.29	10.00	0.00	20.00		
Insurance	17.65	8.33	0.00	0.00	0.00	14.29	15.00	0.00	0.00		
Manufacturing	17.65	16.67	14.29	14.29	0.00	35.71	20.00	18.18	0.00		
Mathematics/Statistics	5.88	25.00	42.86	21.43	0.00	14.29	5.00	9.09	40.00		
Order Processing/Inventory Control	58.82	33.33	0.00	35.71	40.00	50.00	35.00	45.45	80.00		
Payroll/Personnel	76.47	75.00	57.14	71.43	40.00	71.43	55.00	45.45	60.00		
Petroleum/Fuel analysis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Process control	0.00	16.67	14.29	0.00	0.00	0.00	10.00	0.00	20.00		
Purchasing	35.29	33.33	14.29	50.00	20.00	14.29	25.00	18.18	40.00		
Sales Distribution	47.06	16.67	14.29	28.57	40.00	42.86	30.00	18.18	0.00		
Other	11.76	41.67	14.29	35.71	0.00	28.57	20.00	9.09	0.00		
Source of Applications Programs (%)											
In-house personnel	94.12	91.67	85.71	92.86	100.00	100.00	95.00	100.00	80.00		
“Ready-made” programs from manufacturer	35.29	16.67	42.86	28.57	20.00	7.14	0.00	9.09	40.00		
Contract Programming	17.65	33.33	0.00	35.71	20.00	21.43	45.00	27.27	40.00		
Manufacturer’s Personnel	11.76	8.33	14.29	14.29	0.00	0.00	0.00	0.00	0.00		
Proprietary Software Packages	5.88	41.67	28.57	28.57	0.00	35.71	20.00	45.45	40.00		
Location of Computer (%)											
Distributed Processing Site	0.00	0.00	0.00	0.00	20.00	0.18	0.00	0.00	20.00		
Central Processing Installation	100.00	100.00	100.00	100.00	80.00	1.08	100.00	100.00	80.00		
Using Local Workstations/Terminals (%)	23.53	100.00	100.00	64.29	0.00	42.86	45.00	36.36	60.00		
Using Remote Workstations/Terminals (%)	100.00	100.00	100.00	100.00	0.00	35.71	20.00	45.45	60.00		
Using Data Base Management System (%)											
None	11.76	66.67	71.43	28.57	0.00	14.29	15.00	9.09	20.00		
Manufacturer’s Package	88.24	33.33	28.57	71.43	100.00	85.71	85.00	90.91	80.00		
Outside Vendor’s Package	0.00	87.50	60.00	75.00	0.00	0.00	33.33	0.00	100.00		
Home-Grown System	100.00	0.00	20.00	0.00	0.00	100.00	67.67	0.00	0.00		
Using Communications Monitor (%)											
None	11.76	58.33	71.43	35.71	0.00	21.43	20.00	27.27	60.00		
Manufacturer’s Package	88.24	41.67	28.57	64.29	100.00	78.57	80.00	72.73	40.00		
Outside Vendor’s Package	100.00	71.43	80.00	100.00	0.00	33.33	25.00	33.33	100.00		
Home-Grown System	0.00	0.00	20.00	0.00	0.00	66.67	75.00	33.33	0.00		
Using Integrated Word Processing Functions (%)	0.00	8.33	57.14	0.00	0.00	0.00	5.00	0.00	20.00		
Planned Acquisitions/Implementations for 1981 (%)											
Additional Software from the Manufacturer	23.53	16.67	0.00	28.57	0.00	14.29	20.00	9.09	0.00		
Proprietary Software from other suppliers	5.88	8.33	28.57	21.43	0.00	14.29	20.00	54.55	40.00		
Expansions to Data Communications facilities	23.53	50.00	42.86	42.86	0.00	28.57	40.00	36.36	40.00		
Distributed Processing capabilities	17.65	25.00	0.00	21.43	0.00	14.29	15.00	9.09	0.00		
Expansions to present hardware	17.65	41.67	57.14	7.14	0.00	7.14	35.00	0.00	40.00		
Another Computer System, same model	5.88	8.33	14.29	7.14	0.00	7.14	0.00	9.09	0.00		
Integrated Word Processing capabilities	5.88	8.33	0.00	7.14	0.00	7.14	5.00	0.00	0.00		
Plans for system replacement in 1981 (%)											
Yes, same manufacturer	17.65	8.33	0.00	0.00	40.00	42.86	30.00	45.45	20.00		
Yes, vendor unknown	5.88	0.00	14.29	28.57	20.00	21.43	10.00	9.09	40.00		
Yes, different vendor	29.41	16.67	0.00	28.57	0.00	7.14	0.00	9.09	0.00		
No	47.06	75.00	85.71	35.71	40.00	28.57	55.00	36.36	40.00		

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

Honeywell Series 2000	Honeywell Series 6000	Honeywell, Xerox Sigma Series	Honeywell (other models)	IBM 360/20	IBM 360/30	IBM 360/40	IBM 360/50	IBM 360/60	Manufacturer and Model	
									Survey Item	
17.65	25.00	71.43	21.43	20.00	35.71	45.00	18.18	40.00	Significant Advantages (%)	
5.88	25.00	57.14	21.43	20.00	35.71	25.00	9.09	20.00	Users are happy with response time	
23.53	16.67	28.57	21.43	0.00	28.57	30.00	9.09	0.00	System is easy to expand/reconfigure	
23.53	25.00	28.57	14.29	20.00	42.86	50.00	27.27	20.00	System costs were less than expected	
5.88	25.00	28.57	14.29	0.00	14.29	0.00	9.09	0.00	Programs/data carried over from other systems are compatible, as vendor promised	
0.00	8.33	0.00	7.14	0.00	14.29	10.00	0.00	20.00	Terminals/peripherals carried over from other systems are compatible, as vendor promised	
0.00	8.33	42.86	14.29	0.00	14.29	10.00	0.00	0.00	System is power/energy efficient	
0.00	25.00	28.57	7.14	0.00	7.14	10.00	0.00	20.00	Productivity aids help us keep programming costs down	
0.00	8.33	0.00	7.14	0.00	14.29	25.00	0.00	0.00	Data base language is efficient and effective	
0.00	0.00	0.00	7.14	0.00	7.14	10.00	0.00	0.00	Delivery and/or installation of equipment was ahead of schedule	
0.00	0.00	0.00	7.14	0.00	7.14	10.00	0.00	0.00	Delivery of required software was ahead of schedule	
Significant Problems (%)										
11.76	8.33	14.29	21.43	0.00	0.00	10.00	0.00	0.00	Computer proposed by vendor was too small	
5.88	0.00	14.29	7.14	0.00	0.00	0.00	9.09	0.00	Installation of equipment was late	
0.00	25.00	14.29	0.00	0.00	7.14	0.00	0.00	0.00	Delivery of required software was late	
5.88	16.67	14.29	7.14	0.00	0.00	5.00	9.09	20.00	System costs (for hardware, vendor-supplied software, support) exceeded the expected total	
5.88	33.33	28.57	21.43	0.00	14.29	5.00	9.09	0.00	Vendor did not provide all the promised software or support	
5.88	16.67	14.29	0.00	0.00	0.00	0.00	0.00	0.00	Program/data compatibility not what vendor promised	
0.00	16.67	0.00	7.14	0.00	0.00	0.00	0.00	0.00	Terminals/peripherals compatibility not what vendor promised	
5.88	33.33	0.00	0.00	0.00	0.00	0.00	18.18	0.00	Vendor enhancements/changes to hardware/software hard to keep up with	
23.53	8.33	14.29	28.57	0.00	0.00	10.00	9.09	0.00	Equipment is excessively noisy	
41.18	16.67	42.86	21.43	0.00	14.29	25.00	45.45	60.00	Power and/or cooling requirements are excessive	
System Ratings (4.0-0.0)										
2.94	3.08	3.86	2.79	2.40	3.00	3.16	2.91	3.50	Ease of operation	
3.18	2.92	2.71	2.93	3.60	3.00	3.15	2.91	3.40	Reliability of Mainframe	
2.94	2.33	2.43	2.79	2.80	2.86	2.65	2.82	2.60	Reliability of Peripherals	
2.88	3.00	2.43	2.71	2.80	2.71	3.10	2.82	3.40	Maintenance service:	
2.94	2.67	2.29	2.57	3.00	2.92	3.05	2.56	3.00	Responsiveness	
2.94	2.45	2.14	2.31	2.50	2.75	2.50	2.56	3.25	Effectiveness	
2.71	2.42	1.71	1.85	2.00	2.75	2.55	2.75	3.60	Technical support:	
2.35	2.33	2.43	1.92	2.25	2.85	2.82	2.89	3.60	Trouble-shooting	
2.53	2.33	2.43	1.92	2.25	2.85	2.82	2.89	3.60	Education	
2.71	2.83	3.86	2.93	2.60	3.14	2.89	3.13	2.80	Documentation	
2.94	2.67	3.43	2.86	2.80	3.15	3.11	3.00	3.60	Manufacturer's software:	
2.20	2.33	2.50	2.00	2.33	3.00	2.90	2.50	3.00	Operating system	
2.82	2.83	3.86	2.93	2.60	3.14	2.89	3.13	2.80	Compilers & Assemblers	
2.94	2.67	3.43	2.86	2.80	3.15	3.11	3.00	3.60	Applications Programs	
2.76	2.64	3.43	3.07	2.20	2.93	2.80	2.70	3.60	Ease of programming	
2.54	2.40	2.86	2.00	2.00	3.00	2.69	3.10	3.40	Ease of conversion	
2.76	2.33	3.00	2.71	2.60	2.79	2.95	2.70	3.20	Overall satisfaction	
82.35	58.33	85.71	78.57	100.00	85.71	95.00	100.00	100.00	Did the system do what you expected it to do? (%)	
11.76	16.67	0.00	14.29	0.00	14.29	5.00	0.00	0.00	Yes	
5.88	25.00	14.29	7.14	0.00	0.00	0.00	0.00	0.00	No	
5.88	25.00	0.00	7.14	20.00	0.00	5.00	0.00	0.00	Haven't decided	
35.29	41.67	71.43	42.86	0.00	64.29	55.00	54.55	60.00	Would you recommend system to another user? (%)	
47.06	33.33	28.57	50.00	60.00	35.71	35.00	45.45	40.00	Yes	
5.88	25.00	0.00	7.14	20.00	0.00	5.00	0.00	0.00	No	
5.88	25.00	0.00	7.14	20.00	0.00	5.00	0.00	0.00	Haven't decided	

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

Survey Item	Manufacturer and Model	IBM 370/115	IBM 370/125	IBM 370/135	IBM 370/138	IBM 370/145	IBM 370/148	IBM 370/155	IBM 370/158	IBM 370/168
No. of User Responses	9	20	44	96	38	75	21	110	56	
No. of Systems Represented	9	20	47	100	41	80	22	141	73	
Avg. Life of System (Mos.)	62.0	58.2	54.9	29.5	29.1	32.2	32.9	34.5	28.4	
Acquisition Method (%)										
Purchase	33.33	75.00	52.27	38.54	39.47	42.67	76.19	26.61	35.71	
Rental or Lease from Mfr.	22.22	10.00	4.55	19.79	0.00	10.67	0.00	8.26	7.14	
Lease from 3rd Party	44.44	15.00	43.18	41.67	60.53	46.67	23.81	65.14	57.14	
Principal Applications (%)										
Accounting/Billing	100.00	95.00	84.09	80.21	78.95	78.67	80.95	73.64	73.21	
Banking-check processing/loans/savings	0.00	20.00	13.64	12.50	18.42	13.33	19.05	13.64	14.29	
Construction/Architecture	11.11	5.00	0.00	1.04	0.00	0.00	0.00	4.55	5.36	
Education-scheduling/administration	11.11	5.00	6.82	9.38	13.16	12.00	14.29	12.73	10.71	
Engineering/Scientific	11.11	5.00	11.36	6.25	7.89	8.00	9.52	18.18	32.14	
Health care/Medical	0.00	15.00	4.55	5.21	5.26	13.33	9.52	13.64	16.07	
Insurance	11.11	0.00	18.18	9.38	5.26	10.67	9.52	12.73	21.43	
Manufacturing	55.56	20.00	34.09	34.38	36.84	36.00	23.81	26.36	12.50	
Mathematics/Statistics	0.00	5.00	9.09	5.21	2.63	12.00	9.52	20.91	41.07	
Order Processing/Inventory Control	77.78	55.00	65.91	55.21	55.26	54.67	52.38	49.09	42.86	
Payroll/Personnel	88.89	80.00	70.45	64.58	71.05	70.67	57.14	61.82	64.29	
Petroleum/Fuel analysis	0.00	0.00	0.00	0.00	2.63	1.33	0.00	5.45	5.36	
Process control	0.00	0.00	4.55	4.17	5.26	1.33	0.00	3.64	3.57	
Purchasing	77.78	40.00	31.82	27.08	26.32	32.00	23.81	27.27	39.29	
Sales Distribution	55.56	45.00	38.64	46.88	39.47	41.33	33.33	36.36	19.64	
Other	11.11	15.00	13.64	16.67	21.05	16.00	4.76	25.45	42.86	
Source of Applications Programs (%)										
In-house personnel	100.00	90.00	95.45	94.79	97.37	98.67	95.24	95.48	100.00	
"Ready-made" programs from manufacturer	0.00	40.00	25.00	29.17	26.32	41.33	14.29	38.18	50.00	
Contract Programming	22.22	45.00	27.27	21.88	26.32	24.00	28.57	43.64	55.36	
Manufacturer's Personnel	0.00	10.00	0.00	6.25	0.00	5.33	4.76	11.82	12.50	
Proprietary Software Packages	22.22	45.00	47.73	48.96	55.26	58.67	47.62	67.27	73.21	
Location of Computer (%)										
Distributed Processing Site	11.11	0.00	2.27	2.08	0.00	0.00	0.00	2.75	0.00	
Central Processing Installation	88.89	100.00	97.73	97.92	100.00	100.00	100.00	97.25	100.00	
Using Local Workstations/Terminals (%)	66.67	85.00	84.09	92.71	97.37	94.67	100.00	97.27	100.00	
Using Remote Workstations/Terminals (%)	33.33	65.00	59.09	57.30	55.68	76.00	80.95	89.09	98.21	
Using Data Base Management System (%)	33.33	30.00	25.00	40.63	47.37	58.67	42.86	65.45	82.14	
None	66.67	70.00	72.73	59.38	52.63	41.33	57.14	32.73	17.86	
Manufacturer's Package	100.00	60.00	45.45	60.53	38.89	55.81	33.33	50.00	60.87	
Outside Vendor's Package	0.00	40.00	36.36	28.95	61.11	37.21	66.67	41.67	36.96	
Home-Grown System	0.00	0.00	18.18	10.53	0.00	6.98	0.00	8.33	2.17	
Using Communications Monitor (%)	55.56	85.00	75.00	76.04	97.37	85.33	71.43	90.00	82.14	
None	44.44	15.00	20.45	23.96	2.63	14.67	23.81	9.09	16.07	
Manufacturer's Package	80.00	64.71	40.63	76.39	72.97	75.00	50.00	80.61	60.00	
Outside Vendor's Package	0.00	23.53	53.13	19.44	27.03	23.44	50.00	16.33	31.11	
Home-Grown System	20.00	11.76	6.25	4.17	0.00	1.56	0.00	3.06	8.89	
Using Integrated Word Processing Functions (%)	0.00	10.00	6.82	2.08	2.63	4.00	14.29	18.18	26.79	
Planned Acquisitions/Implementations for 1981 (%)										
Additional Software from the Manufacturer	22.22	35.00	45.45	37.50	60.53	50.67	33.33	55.45	71.43	
Proprietary Software from other suppliers	44.44	50.00	38.64	41.67	71.05	57.33	33.33	62.73	73.21	
Expansions to Data Communications facilities	33.33	30.00	31.82	36.46	44.74	53.33	47.62	60.91	64.29	
Distributed Processing capabilities	11.11	5.00	20.45	9.38	10.53	21.33	19.05	18.18	19.64	
Expansions to present hardware	22.22	45.00	52.27	45.83	36.84	58.67	61.90	60.91	66.07	
Another Computer System, same model	11.11	5.00	2.27	5.21	2.63	5.33	4.76	6.36	12.50	
Integrated Word Processing capabilities	0.00	5.00	6.82	7.29	13.16	16.00	9.52	16.36	12.50	
Plans for system replacement in 1981 (%)										
Yes, same manufacturer	33.33	70.00	54.55	40.63	39.47	53.33	38.10	25.45	17.86	
Yes, vendor unknown	0.00	5.00	2.27	3.13	2.63	1.33	9.52	3.64	1.79	
Yes, different vendor	0.00	0.00	0.00	1.04	2.63	0.00	0.00	0.91	1.79	
No	66.67	25.00	38.64	53.13	55.26	44.00	52.38	70.00	76.79	

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

										Manufacturer and Model
										Survey Item
										Significant Advantages (%)
11.11 40.00 40.91 46.88 36.84 42.67 33.33 53.64 44.64										Users are happy with response time
33.33 45.00 27.27 29.17 23.68 36.00 19.05 32.73 25.00										System is easy to expand/reconfigure
0.00 15.00 15.91 11.46 10.53 10.67 9.52 10.91 7.14										System costs were less than expected
44.44 55.00 50.00 54.17 44.74 58.67 52.38 53.64 67.86										Programs/data carried over from other systems are compatible, as vendor promised
										Terminals/peripherals carried over from other systems are compatible, as vendor promised
11.11 45.00 29.55 40.63 28.95 44.00 47.62 52.73 62.50										System is power/energy efficient
11.11 15.00 4.55 6.25 5.26 6.67 0.00 6.36 5.36										Productivity aids help us keep programming costs down
0.00 10.00 11.36 20.83 18.42 21.33 14.29 29.09 25.00										Data base language is efficient and effective
0.00 5.00 6.82 11.46 10.53 13.33 4.76 22.73 19.64										Delivery and/or installation of equipment was ahead of schedule
11.11 10.00 4.55 5.21 10.53 5.33 4.76 4.55 10.71										Delivery of required software was ahead of schedule
										Significant Problems (%)
22.22 15.00 2.27 5.21 5.26 2.67 0.00 3.64 1.79										Computer proposed by vendor was too small
0.00 10.00 2.27 7.29 2.63 2.67 9.52 5.45 3.57										Installation of equipment was late
0.00 5.00 0.00 5.21 5.26 5.33 4.76 1.82 3.57										Delivery of required software was late
0.00 5.00 13.64 11.46 10.53 17.33 4.76 9.09 16.07										System costs (for hardware, vendor-supplied software, support) exceeded the expected total
22.22 10.00 4.55 11.46 7.89 9.33 4.76 1.82 5.36										Vendor did not provide all the promised software or support
0.00 0.00 2.27 1.04 0.00 2.67 0.00 0.91 0.00										Program/data compatibility not what vendor promised
11.11 0.00 0.00 1.04 0.00 0.00 4.76 1.82 0.00										Terminals/peripherals compatibility not what vendor promised
11.11 30.00 13.64 19.79 15.79 22.67 4.76 15.45 28.57										Vendor enhancements/changes to hardware/software hard to keep up with
0.00 15.00 2.27 2.08 2.63 0.00 0.00 2.73 1.79										Equipment is excessively noisy
11.11 5.00 31.82 14.58 50.00 17.33 23.81 22.73 44.64										Power and/or cooling requirements are excessive
										System Ratings (4.0-0.0)
3.33 2.95 3.05 3.21 3.08 3.25 3.11 3.10 3.00										Ease of operation
3.56 3.50 3.44 3.68 3.21 3.53 2.70 3.40 3.33										Reliability of Mainframe
3.13 3.30 3.21 3.26 3.03 3.20 2.89 3.20 3.17										Reliability of Peripherals
										Maintenance service:
3.22 2.95 2.98 3.23 3.14 3.20 3.05 3.26 3.22										Responsiveness
3.11 2.79 2.95 3.19 2.81 3.15 2.86 3.20 3.16										Effectiveness
										Technical support:
2.89 2.55 2.52 2.91 2.35 2.56 2.70 2.90 2.86										Trouble-shooting
2.78 2.85 2.60 2.86 2.61 2.58 2.90 2.88 2.89										Education
2.44 2.75 2.55 2.74 2.53 2.55 2.90 2.86 2.84										Documentation
										Manufacturer's software:
3.25 2.90 2.95 3.05 2.95 2.99 2.95 3.06 3.14										Operating system
3.56 3.15 3.07 3.18 3.11 3.09 3.10 3.15 3.20										Compilers & Assemblers
3.00 2.71 2.53 2.87 2.85 2.65 2.85 2.81 2.76										Applications Programs
										Ease of programming
3.33 2.80 2.90 2.97 2.86 2.83 2.86 2.91 2.91										Ease of conversion
3.22 2.65 2.76 2.89 2.86 2.82 2.89 2.94 2.89										Overall satisfaction
										Did the system do what you expected it to do? (%)
88.89 90.00 93.18 95.83 84.21 92.00 90.48 96.36 96.43										Yes
0.00 0.00 2.27 2.08 5.26 2.67 0.00 0.00 1.79										No
11.11 10.00 2.27 1.04 10.53 5.33 9.52 3.64 1.79										Haven't decided
										Would you recommend system to another user? (%)
66.67 80.00 81.82 85.42 60.53 85.33 61.90 84.55 78.57										Yes
22.22 15.00 18.18 8.33 23.68 8.00 33.33 10.91 12.50										No
11.11 5.00 0.00 5.21 15.79 6.67 4.76 4.55 7.14										Haven't decided

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

Survey Item	Manufacturer and Model	IBM 370 (other models)	IBM 3031	IBM 3032	IBM 3033	IBM 4331	IBM 4341	Magnuson M80 Series	NAS AS/45	NAS AS/5-7031
No. of User Responses	4	86	30	112	196	123	18	15	4	
No. of Systems Represented	5	98	40	174	201	144	24	17	5	
Avg. Life of System (Mos.)	2.0	20.4	22.2	14.8	9.0	5.3	11.6	27.7	14.0	
Acquisition Method (%)										
Purchase	50.00	37.21	46.67	46.85	22.05	27.05	50.00	60.00	50.00	
Rental or Lease from Mfr.	50.00	23.26	20.00	21.62	69.23	59.02	44.44	13.33	0.00	
Lease from 3rd Party	0.00	39.53	33.33	31.53	8.72	13.93	5.56	26.67	50.00	
Principal Applications (%)										
Accounting/Billing	25.00	75.58	80.00	69.64	75.51	74.80	66.67	73.33	75.00	
Banking-check processing/loans/savings	0.00	20.93	30.00	19.64	10.71	11.38	22.22	6.67	0.00	
Construction/Architecture	0.00	2.33	3.33	4.46	3.57	2.44	0.00	0.00	0.00	
Education-scheduling/administration	25.00	10.47	20.00	7.14	9.69	12.20	16.67	13.33	25.00	
Engineering/Scientific	0.00	15.12	23.33	23.21	6.63	13.82	11.11	13.33	0.00	
Health care/Medical	25.00	9.30	6.67	7.14	7.14	10.57	5.56	6.67	0.00	
Insurance	0.00	12.58	16.67	24.11	9.18	12.20	5.56	20.00	0.00	
Manufacturing	0.00	15.12	13.33	20.54	29.59	28.46	11.11	20.00	25.00	
Mathematics/Statistics	25.00	18.60	13.33	27.68	9.18	13.01	22.22	20.00	25.00	
Order Processing/Inventory Control	25.00	39.53	36.67	45.54	51.53	53.66	38.89	40.00	50.00	
Payroll/Personnel	50.00	69.77	60.00	66.96	59.69	64.23	50.00	60.00	75.00	
Petroleum/Fuel analysis	0.00	1.16	3.33	4.46	2.55	1.63	0.00	0.00	0.00	
Process control	0.00	1.16	13.33	8.93	3.06	2.44	5.56	0.00	0.00	
Purchasing	0.00	39.53	23.33	30.36	29.59	39.84	22.22	40.00	25.00	
Sales Distribution	0.00	27.91	16.67	26.79	34.69	30.89	22.22	13.33	50.00	
Other	25.00	17.44	16.67	21.43	19.39	17.89	16.67	13.33	0.00	
Source of Applications Programs (%)										
In-house personnel	100.00	96.51	100.00	95.54	93.88	95.93	94.44	86.67	100.00	
"Ready-made" programs from manufacturer	50.00	43.02	46.67	48.21	21.43	38.21	38.89	26.67	50.00	
Contract Programming	0.00	50.00	43.33	53.57	20.92	35.77	44.44	53.33	50.00	
Manufacturer's Personnel	0.00	4.65	10.00	10.71	1.53	4.07	5.56	0.00	0.00	
Proprietary Software Packages	25.00	67.44	66.67	63.39	40.82	61.79	66.67	53.33	75.00	
Location of Computer (%)										
Distributed Processing Site	0.00	0.00	0.00	1.79	6.63	2.44	0.00	0.00	0.00	
Central Processing Installation	100.00	100.00	100.00	98.21	93.37	97.56	100.00	100.00	100.00	
Using Local Workstations/Terminals (%)	75.00	98.83	96.67	100.00	96.43	98.38	94.44	93.33	100.00	
Using Remote Workstations/Terminals (%)	100.00	93.02	93.33	91.96	51.52	75.61	55.56	80.00	100.00	
Using Data Base Management System (%)	75.00	53.49	76.67	83.04	32.65	43.90	38.89	66.67	50.00	
None	25.00	46.51	23.33	16.96	67.35	55.28	61.11	33.33	50.00	
Manufacturer's Package	66.67	57.78	60.87	74.19	68.25	61.11	14.29	0.00	0.00	
Outside Vendor's Package	33.33	40.00	34.78	23.66	30.16	35.19	85.71	70.00	100.00	
Home-Grown System	0.00	2.22	4.35	2.15	1.59	3.70	0.00	30.00	0.00	
Using Communications Monitor (%)	25.00	89.53	83.33	85.71	74.49	86.99	72.22	100.00	50.00	
None	75.00	8.14	16.67	12.50	22.96	12.20	27.78	0.00	50.00	
Manufacturer's Package	100.00	92.11	75.00	75.53	83.45	80.77	38.46	20.00	50.00	
Outside Vendor's Package	0.00	7.89	16.67	22.34	12.41	16.35	53.85	66.67	50.00	
Home-Grown System	0.00	0.00	8.33	2.13	4.14	2.88	7.69	13.33	0.00	
Using Integrated Word Processing Functions (%)	50.00	12.79	10.00	30.36	3.57	12.20	11.11	26.67	25.00	
Planned Acquisitions/Implementations for 1981 (%)										
Additional Software from the Manufacturer	25.00	73.26	70.00	66.07	45.92	62.60	38.89	26.67	0.00	
Proprietary Software from other suppliers	25.00	63.95	63.33	68.75	49.49	63.41	72.22	80.00	75.00	
Expansions to Data Communications facilities	25.00	66.28	63.33	74.11	41.33	61.79	72.22	80.00	25.00	
Distributed Processing capabilities	25.00	29.07	6.67	39.29	14.80	18.70	11.11	26.67	25.00	
Expansions to present hardware	50.00	66.28	73.33	65.18	42.86	49.59	50.00	66.67	25.00	
Another Computer System, same model	0.00	6.98	16.67	18.75	2.04	16.26	11.11	0.00	0.00	
Integrated Word Processing capabilities	25.00	13.95	20.00	22.32	6.63	19.51	5.56	6.67	0.00	
Plans for system replacement in 1981 (%)										
Yes, same manufacturer	0.00	20.93	16.67	7.14	9.18	3.25	5.56	0.00	0.00	
Yes, vendor unknown	0.00	1.16	0.00	3.57	1.53	0.81	0.00	0.00	0.00	
Yes, different vendor	0.00	1.16	3.33	0.00	0.00	0.00	0.00	26.67	0.00	
No	100.00	76.74	80.00	89.29	88.78	95.93	94.44	73.33	100.00	

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

IBM 370 (other models)	IBM 3031	IBM 3032	IBM 3033	IBM 4331	IBM 4341	Magnuson M80 Series	NAS AS/5	NAS AS/5-7031	Manufacturer and Model	
									Survey Item	
50.00	54.65	46.67	57.14	51.02	69.11	44.44	53.33	50.00	Significant Advantages (%)	
25.00	46.51	26.67	48.21	48.98	66.67	94.44	33.33	0.00	Users are happy with response time	
0.00	10.47	23.33	11.61	21.94	13.82	55.56	33.33	25.00	System is easy to expand/reconfigure	
50.00	62.79	53.33	72.32	55.10	72.36	88.89	66.67	100.00	System costs were less than expected	
									Programs/data carried over from other systems are compatible, as vendor promised	
50.00	54.65	60.00	71.43	30.10	65.85	83.33	73.33	75.00	Terminals/peripherals carried over from other systems are compatible, as vendor promised	
50.00	16.28	10.00	23.21	65.82	69.92	88.89	66.67	25.00	System is power/energy efficient	
25.00	26.74	20.00	26.79	44.90	29.27	22.22	13.33	0.00	Productivity aids help us keep programming costs down	
50.00	10.47	16.67	18.75	8.67	8.13	5.56	20.00	0.00	Data base language is efficient and effective	
0.00	16.28	16.67	22.32	23.98	23.58	55.56	46.67	25.00	Delivery and/or installation of equipment was ahead of schedule	
0.00	3.49	10.00	12.50	11.22	6.50	5.56	6.67	0.00	Delivery of required software was ahead of schedule	
0.00	3.49	3.33	2.68	6.63	3.25	0.00	0.00	0.00	Significant Problems (%)	
0.00	6.98	3.33	3.57	12.24	15.45	0.00	0.00	0.00	Computer proposed by vendor was too small	
0.00	3.49	3.33	2.68	14.80	15.45	5.56	0.00	0.00	Installation of equipment was late	
0.00	13.95	10.00	7.14	17.35	5.69	5.56	0.00	0.00	Delivery of required software was late	
									System costs (for hardware, vendor-supplied software, support) exceeded the expected total	
50.00	8.14	10.00	2.68	18.88	17.89	0.00	6.67	0.00	Vendor did not provide all the promised software or support	
0.00	1.16	3.33	0.00	5.61	5.69	0.00	0.00	0.00	Program/data compatibility not what vendor promised	
25.00	1.16	3.33	0.89	1.02	0.81	0.00	0.00	0.00	Terminals/peripherals compatibility not what vendor promised	
25.00	23.26	26.67	18.75	29.08	18.70	0.00	13.33	0.00	Vendor enhancements/changes to hardware/software hard to keep up with	
0.00	1.16	3.33	0.00	0.51	0.00	0.00	0.00	0.00	Equipment is excessively noisy	
25.00	9.30	20.00	16.07	0.00	0.00	0.00	6.67	0.00	Power and/or cooling requirements are excessive	
3.50	3.18	3.10	3.29	3.30	3.35	3.72	3.73	3.50	System Ratings (4.0-0.0)	
3.25	3.47	3.33	3.55	3.76	3.66	3.89	3.07	3.50	Ease of operation	
2.75	3.29	3.10	3.24	3.39	3.17	3.19	3.07	3.00	Reliability of Mainframe	
3.75	3.28	3.14	3.31	3.29	3.22	3.47	3.27	3.50	Reliability of Peripherals	
3.33	3.18	3.03	3.26	3.28	3.13	3.35	2.87	3.50	Maintenance service:	
									Responsiveness	
									Effectiveness	
3.00	2.81	2.86	3.11	2.79	2.72	3.31	2.85	3.00	Technical support:	
3.00	2.82	2.96	2.96	2.73	2.71	2.94	2.67	2.00	Trouble-shooting	
3.50	2.72	2.86	2.87	2.66	2.66	3.00	2.50	2.50	Education	
									Documentation	
3.25	3.13	3.17	3.26	2.99	2.84	3.23	3.09	3.50	Manufacturer's software:	
3.25	3.27	3.10	3.24	3.21	3.13	3.08	3.00	3.50	Operating system	
3.25	2.85	2.80	2.98	2.86	2.72	2.88	2.90	3.00	Compilers & Assemblers	
									Applications Programs	
3.25	3.00	2.93	3.02	3.05	2.93	3.25	3.23	3.00	Ease of programming	
3.00	3.05	2.89	3.13	2.90	2.88	3.59	3.31	3.25	Ease of conversion	
3.25	3.11	3.00	3.21	3.09	3.16	3.61	3.14	3.50	Overall satisfaction	
100.00	91.86	96.67	97.32	82.65	91.06	88.89	93.33	100.00	Did the system do what you expected it to do? (%)	
0.00	1.16	0.00	0.00	5.10	0.81	0.00	6.67	0.00	Yes	
0.00	6.98	3.33	2.68	12.24	8.13	11.11	0.00	0.00	No	
									Haven't decided	
100.00	86.05	66.67	92.86	85.71	91.06	94.44	86.67	100.00	Would you recommend system to another user? (%)	
0.00	3.49	33.33	1.79	4.59	2.44	0.00	6.67	0.00	Yes	
0.00	9.30	0.00	5.36	9.69	6.50	5.56	6.67	0.00	No	
									Haven't decided	

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

Survey Item	NAS AS/6	NAS AS/5000	NAS AS/7000	NCR Century 101-200	NCR 8400 Series	NCR 8500 Series	Univac 90/30	Univac 90/40	Univac 90/60
No. of User Responses	6	4	5	25	60	62	52	15	7
No. of Systems Represented	7	5	5	25	60	75	53	17	7
Avg. Life of System (Mos.)	27.5	11.5	11.0	80.7	12.3	25.6	42.1	22.6	45.7
Acquisition Method (%)									
Purchase	50.00	50.00	20.00	56.00	26.67	30.65	32.69	13.33	57.14
Rental or Lease from Mfr.	16.67	25.00	0.00	16.00	51.67	48.39	57.69	86.67	28.57
Lease from 3rd Party	33.33	25.00	80.00	28.00	21.67	20.97	9.62	0.00	14.29
Principal Applications (%)									
Accounting/Billing	66.67	50.00	60.00	88.00	75.00	62.90	88.46	73.33	85.71
Banking-check processing/loans/savings	33.33	25.00	0.00	0.00	23.33	32.26	3.85	6.67	14.29
Construction/Architecture	0.00	0.00	0.00	0.00	3.33	1.61	0.00	0.00	0.00
Education-scheduling/administration	0.00	25.00	20.00	16.00	6.67	1.61	15.38	20.00	0.00
Engineering/Scientific	16.67	0.00	20.00	0.00	5.00	3.23	5.77	0.00	14.29
Health care/Medical	16.67	25.00	0.00	8.00	13.33	4.84	9.62	26.67	0.00
Insurance	33.33	50.00	20.00	8.00	1.67	3.23	9.62	20.00	0.00
Manufacturing	33.33	0.00	20.00	20.00	25.00	19.35	25.00	20.00	28.57
Mathematics/Statistics	33.33	0.00	0.00	0.00	3.33	3.23	7.69	6.67	0.00
Order Processing/Inventory Control	33.33	25.00	60.00	36.00	35.00	50.00	57.69	53.33	57.14
Payroll/Personnel	50.00	25.00	60.00	60.00	63.33	62.90	67.31	60.00	85.71
Petroleum/Fuel analysis	0.00	0.00	0.00	4.00	1.67	1.61	3.85	6.67	14.29
Process control	0.00	0.00	0.00	4.00	1.67	1.61	1.92	6.67	0.00
Purchasing	16.67	0.00	40.00	8.00	25.00	19.35	28.85	26.67	57.14
Sales Distribution	0.00	0.00	20.00	24.00	23.33	40.32	46.15	46.67	28.57
Other	16.67	25.00	20.00	16.00	15.00	14.52	25.00	20.00	28.57
Source of Applications Programs (%)									
In-house personnel	100.00	100.00	100.00	84.00	80.00	85.48	98.08	100.00	100.00
"Ready-made" programs from manufacturer	66.67	25.00	0.00	60.00	73.33	53.23	21.15	46.67	14.29
Contract Programming	66.67	75.00	80.00	12.00	36.67	20.97	19.23	33.33	14.29
Manufacturer's Personnel	16.67	0.00	0.00	12.00	8.33	9.68	13.46	13.33	0.00
Proprietary Software Packages	66.67	25.00	80.00	24.00	25.00	37.10	21.15	40.00	0.00
Location of Computer (%)									
Distributed Processing Site	0.00	25.00	0.00	0.00	0.00	3.23	1.92	0.00	0.00
Central Processing Installation	100.00	75.00	100.00	100.00	100.00	96.77	98.08	100.00	100.00
Using Local Workstations/Terminals (%)	100.00	100.00	100.00	96.00	100.00	100.00	98.08	100.00	100.00
Using Remote Workstations/Terminals (%)	83.33	100.00	100.00	96.00	100.00	100.00	94.23	93.33	71.43
Using Data Base Management System (%)	83.33	25.00	80.00	0.00	21.67	32.26	19.23	20.00	42.86
None	16.67	75.00	20.00	100.00	78.33	67.74	80.77	80.00	57.14
Manufacturer's Package	0.00	0.00	50.00	0.00	46.15	15.00	90.00	100.00	66.67
Outside Vendor's Package	100.00	100.00	50.00	0.00	23.08	70.00	0.00	0.00	33.33
Home-Grown System	0.00	0.00	0.00	0.00	30.77	15.00	10.00	0.00	0.00
Using Communications Monitor (%)	100.00	100.00	80.00	12.00	36.67	64.52	51.92	80.00	57.14
None	0.00	0.00	20.00	88.00	60.00	35.48	44.23	20.00	42.86
Manufacturer's Package	16.67	50.00	0.00	66.67	72.73	50.00	96.30	100.00	75.00
Outside Vendor's Package	83.33	25.00	100.00	33.33	27.27	32.50	0.00	0.00	0.00
Home-Grown System	0.00	25.00	0.00	0.00	0.00	17.50	3.70	0.00	25.00
Using Integrated Word Processing Functions (%)	16.67	50.00	20.00	0.00	3.33	3.23	0.00	6.67	14.29
Planned Acquisitions/Implementations for 1981 (%)									
Additional Software from the Manufacturer	0.00	50.00	20.00	16.00	41.67	40.32	28.85	40.00	0.00
Proprietary Software from other suppliers	50.00	50.00	80.00	8.00	31.67	38.71	13.46	53.33	14.29
Expansions to Data Communications facilities	66.67	75.00	40.00	8.00	41.67	48.39	55.77	46.67	57.14
Distributed Processing capabilities	33.33	25.00	20.00	4.00	10.00	11.29	13.46	13.33	0.00
Expansions to present hardware	50.00	75.00	40.00	4.00	38.33	54.84	46.15	60.00	28.57
Another Computer System, same model	16.67	0.00	20.00	4.00	0.00	4.84	11.54	13.33	0.00
Integrated Word Processing capabilities	0.00	0.00	20.00	4.00	18.33	6.45	3.85	6.67	0.00
Plans for system replacement in 1981 (%)									
Yes, same manufacturer	0.00	0.00	0.00	12.00	3.33	4.84	13.46	6.67	0.00
Yes, vendor unknown	16.67	0.00	0.00	12.00	1.67	0.00	5.77	6.67	0.00
Yes, different vendor	0.00	25.00	0.00	28.00	3.33	3.23	0.00	13.33	0.00
No	83.33	75.00	100.00	48.00	91.67	90.32	80.77	73.33	100.00

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

NAS AS/6	NAS AS/5000	NAS AS/7000	NCR Century 101-200	NCR 8400 Series	NCR 8500 Series	Univac 90/30	Univac 90/40	Univac 90/60	Manufacturer and Model	
									Survey Item	
50.00	50.00	100.00	36.00	56.67	59.68	42.31	60.00	71.43	Significant Advantages (%)	
33.33	50.00	80.00	32.00	81.67	74.19	63.46	60.00	57.14	Users are happy with response time	
16.67	25.00	40.00	8.00	21.67	22.58	21.15	13.33	14.29	System is easy to expand/reconfigure	
66.67	100.00	80.00	36.00	75.00	62.90	46.15	60.00	85.71	System costs were less than expected	
83.33	75.00	80.00	12.00	40.00	45.16	13.46	26.67	14.29	Programs/data carried over from other systems are compatible, as vendor promised	
50.00	75.00	60.00	4.00	21.67	25.81	7.69	6.67	14.29	Terminals/peripherals carried over from other systems are compatible, as vendor promised	
33.33	25.00	20.00	4.00	25.00	32.26	34.62	33.33	71.43	System is power/energy efficient	
0.00	25.00	0.00	0.00	5.00	11.29	1.92	0.00	14.29	Productivity aids help us keep programming costs down	
16.67	0.00	40.00	0.00	13.33	20.97	28.85	13.33	28.57	Data base language is efficient and effective	
0.00	0.00	20.00	0.00	13.33	6.45	17.31	6.67	14.29	Delivery and/or installation of equipment was ahead of schedule	
0.00	0.00	0.00	8.00	3.33	8.06	21.15	20.00	28.57	Delivery of required software was ahead of schedule	
0.00	25.00	20.00	0.00	35.00	11.29	3.85	13.33	14.29	Significant Problems (%)	
0.00	0.00	0.00	0.00	15.00	20.97	1.92	20.00	0.00	Computer proposed by vendor was too small	
0.00	0.00	0.00	16.00	20.00	11.29	15.38	13.33	0.00	Installation of equipment was late	
0.00	25.00	0.00	12.00	20.00	30.65	19.23	26.67	0.00	Delivery of required software was late	
0.00	0.00	0.00	0.00	6.67	4.84	192	13.33	0.00	System costs (for hardware, vendor-supplied software, support) exceeded the expected total	
0.00	0.00	0.00	0.00	5.00	1.61	1.92	13.33	0.00	Vendor did not provide all the promised software or support	
0.00	0.00	0.00	16.00	11.67	16.13	17.31	33.33	14.29	Program/data compatibility not what vendor promised	
0.00	25.00	0.00	28.00	1.67	3.23	5.77	0.00	0.00	Terminals/peripherals compatibility not what vendor promised	
0.00	0.00	0.00	20.00	6.67	3.23	5.77	0.00	14.29	Vendor enhancements/changes to hardware/software hard to keep up with	
3.50	3.75	3.80	2.92	3.41	3.38	3.24	3.20	3.00	Equipment is excessively noisy	
3.83	3.25	4.00	3.28	3.48	3.55	3.46	3.33	3.14	Power and/or cooling requirements are excessive	
2.33	2.75	3.25	2.84	3.10	3.10	3.02	2.73	3.00	System Ratings (4.0-0.0)	
3.00	3.25	3.60	2.96	3.13	3.06	3.31	2.93	3.14	Ease of operation	
3.00	3.00	3.40	2.80	3.05	2.86	3.18	2.80	2.71	Reliability of Mainframe	
2.50	3.25	3.60	2.36	2.54	2.39	2.65	2.40	3.00	Reliability of Peripherals	
1.83	2.50	2.80	2.48	2.56	2.65	2.37	2.40	2.29	Maintenance service:	
2.00	2.50	2.80	2.39	2.36	2.47	2.37	2.27	2.57	Responsiveness	
3.25	3.33	3.00	3.00	3.05	3.10	3.08	3.07	3.57	Effectiveness	
3.50	3.33	3.00	3.04	3.05	3.00	3.20	3.20	3.14	Technical support:	
2.33	3.00	3.00	2.74	2.68	2.56	2.77	2.67	2.50	Trouble-shooting	
2.50	3.25	3.60	2.36	2.54	2.39	2.65	2.40	3.00	Education	
1.83	2.50	2.80	2.48	2.56	2.65	2.37	2.40	2.29	Documentation	
2.00	2.50	2.80	2.39	2.36	2.47	2.37	2.27	2.57	Manufacturer's software:	
3.25	3.33	3.00	3.00	3.05	3.10	3.08	3.07	3.57	Operating system	
3.50	3.33	3.00	3.04	3.05	3.00	3.20	3.20	3.14	Compilers & Assemblers	
2.33	3.00	3.00	2.74	2.68	2.56	2.77	2.67	2.50	Applications Programs	
2.67	3.25	3.25	2.83	3.12	3.00	3.14	3.07	3.00	Ease of programming	
3.00	3.50	3.25	2.95	3.33	3.13	2.94	2.60	3.00	Ease of conversion	
3.25	3.50	3.60	2.88	3.12	3.03	3.04	2.80	2.86	Overall satisfaction	
83.33	100.00	100.00	88.00	80.00	91.94	75.00	73.33	85.71	Did the system do what you expected it to do? (%)	
0.00	0.00	0.00	8.00	8.33	6.45	11.54	13.33	0.00	Yes	
16.67	0.00	0.00	4.00	11.67	1.61	13.46	13.33	14.29	No	
									Haven't decided	
83.33	100.00	100.00	40.00	83.33	79.03	69.23	60.00	42.86	Would you recommend system to another user? (%)	
16.67	0.00	0.00	48.00	5.00	11.29	11.54	20.00	42.86	Yes	
0.00	0.00	0.00	12.00	10.00	9.68	19.23	20.00	14.29	No	
									Haven't decided	

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

Survey Item	Manufacturer and Model	Univac 90/70	Univac 90/80	Univac 1100/10	Univac 1100/40	Univac 1100/60	Univac 1100/80	Univac 1106/1108	Univac (other models)	Mainframes (other models)
No. of User Responses		4	11	10	5	5	15	6	5	3
No. of Systems Represented		6	12	10	6	5	16	8	5	3
Avg. Life of System (Mos.)		39.0	15.5	33.6	41.5	7.8	15.9	73.2	60.00	29.0
Acquisition Method (%)										
Purchase		50.00	27.27	20.00	20.00	20.00	13.33	50.00	40.00	33.33
Rental or Lease from Mfr.		25.00	63.64	70.00	80.00	80.00	80.00	33.33	60.00	33.33
Lease from 3rd Party		25.00	9.09	10.00	0.00	0.00	6.67	16.67	0.00	33.33
Principal Applications (%)										
Accounting/Billing		50.00	81.82	90.00	80.00	80.00	66.67	50.00	60.00	33.33
Banking-check processing/loans/savings		25.00	0.00	10.00	20.00	0.00	6.67	0.00	0.00	0.00
Construction/Architecture		0.00	9.09	10.00	0.00	20.00	6.67	0.00	0.00	0.00
Education-scheduling/administration		25.00	27.27	10.00	20.00	20.00	46.67	0.00	0.00	0.00
Engineering/Scientific		25.00	36.36	10.00	60.00	0.00	13.33	33.33	0.00	0.00
Health care/Medical		0.00	9.09	20.00	0.00	20.00	13.33	0.00	0.00	0.00
Insurance		0.00	18.18	20.00	0.00	0.00	13.33	16.67	20.00	33.33
Manufacturing		25.00	9.09	30.00	40.00	0.00	0.00	16.67	20.00	33.33
Mathematics/Statistics		50.00	45.45	10.00	40.00	0.00	46.67	16.67	0.00	0.00
Order Processing/Inventory Control		25.00	27.27	70.00	60.00	80.00	46.67	33.33	20.00	66.67
Payroll/Personnel		25.00	81.82	90.00	100.00	80.00	46.67	66.67	40.00	33.33
Petroleum/Fuel analysis		0.00	9.09	20.00	0.00	0.00	0.00	0.00	20.00	0.00
Process control		0.00	0.00	10.00	40.00	20.00	6.67	0.00	0.00	0.00
Purchasing		0.00	27.27	60.00	0.00	60.00	46.67	16.67	0.00	0.00
Sales Distribution		25.00	27.27	60.00	20.00	40.00	20.00	33.33	0.00	33.33
Other		25.00	54.55	30.00	20.00	40.00	33.33	83.33	40.00	0.00
Source of Applications Programs (%)										
In-house personnel		100.00	100.00	100.00	100.00	100.00	100.00	83.33	100.00	66.67
"Ready-made" programs from manufacturer		25.00	36.36	40.00	40.00	60.00	33.33	66.67	0.00	33.33
Contract Programming		0.00	27.27	30.00	40.00	40.00	46.67	50.00	0.00	33.33
Manufacturer's Personnel		0.00	18.18	50.00	20.00	40.00	20.00	33.33	0.00	0.00
Proprietary Software Packages		25.00	36.36	20.00	40.00	40.00	40.00	50.00	0.00	33.33
Location of Computer (%)										
Distributed Processing Site		0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00
Central Processing Installation		100.00	100.00	100.00	100.00	100.00	100.00	100.00	80.00	100.00
Using Local Workstations/Terminals (%)		100.00	100.00	100.00	80.00	100.00	100.00	100.00	100.00	66.67
Using Remote Workstations/Terminals (%)		100.00	100.00	100.00	100.00	80.00	100.00	100.00	80.00	33.33
Using Data Base Management System (%)		25.00	36.36	90.00	100.00	60.00	100.00	50.00	0.00	0.00
None		75.00	63.64	10.00	0.00	40.00	0.00	50.00	100.00	0.00
Manufacturer's Package		0.00	75.00	100.00	100.00	100.00	80.00	66.67	100.00	0.00
Outside Vendor's Package		0.00	25.00	0.00	0.00	0.00	6.67	33.33	0.00	0.00
Home-Grown System		100.00	0.00	0.00	0.00	0.00	13.33	0.00	0.00	0.00
Using Communications Monitor (%)		50.00	63.64	80.00	60.00	60.00	66.67	66.67	20.00	33.33
None		50.00	36.36	20.00	40.00	40.00	26.67	33.33	80.00	66.67
Manufacturer's Package		100.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00
Outside Vendor's Package		0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00
Home-Grown System		0.00	0.00	0.00	0.00	0.00	30.00	0.00	0.00	0.00
Using Integrated Word Processing Functions (%)		25.00	27.27	10.00	20.00	20.00	20.00	33.33	0.00	0.00
Planned Acquisitions/Implementations for 1981 (%)										
Additional Software from the Manufacturer		0.00	18.18	40.00	20.00	80.00	40.00	16.67	20.00	66.67
Proprietary Software from other suppliers		25.00	27.27	20.00	0.00	20.00	33.33	33.33	0.00	66.67
Expansions to Data Communications facilities		25.00	45.45	70.00	80.00	60.00	73.33	83.33	0.00	33.33
Distributed Processing capabilities		0.00	0.00	20.00	20.00	40.00	20.00	0.00	0.00	66.67
Expansions to present hardware		25.00	54.55	70.00	60.00	80.00	40.00	50.00	20.00	33.33
Another Computer System, same model		0.00	0.00	20.00	0.00	0.00	26.67	16.67	20.00	0.00
Integrated Word Processing capabilities		0.00	9.09	10.00	0.00	40.00	6.67	16.67	0.00	0.00
Plans for system replacement in 1981 (%)										
Yes, same manufacturer		25.00	0.00	30.00	20.00	0.00	0.00	50.00	20.00	33.33
Yes, vendor unknown		25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Yes, different vendor		25.00	0.00	10.00	0.00	0.00	0.00	16.67	0.00	0.00
No		25.00	100.00	60.00	80.00	100.00	100.00	33.33	80.00	66.67

## User Ratings of Computer Systems

Table 1. Mainframes &amp; Plug-Compatible Mainframes

Univac 90/70	Univac 90/80	Univac 1100/10	Univac 1100/40	Univac 1100/60	Univac 1100/80	Univac 1106/1108	Univac (other models)	Mainframes (other models)	Manufacturer and Model	
									Survey Item	
25.00	63.64	90.00	40.00	40.00	73.33	0.00	60.00	66.67	Significant Advantages (%)	
0.00	72.73	90.00	40.00	40.00	80.00	33.33	60.00	66.67	Users are happy with response time	
0.00	18.18	10.00	0.00	20.00	13.33	0.00	40.00	66.67	System is easy to expand/reconfigure	
0.00	54.55	10.00	20.00	20.00	66.67	0.00	40.00	100.00	System costs were less than expected	
0.00	27.27	10.00	20.00	20.00	60.00	0.00	20.00	66.67	Programs/data carried over from other systems are compatible, as vendor promised	
25.00	63.64	70.00	20.00	20.00	6.67	16.67	20.00	0.00	Terminals/peripherals carried over from other systems are compatible, as vendor promised	
0.00	27.27	0.00	0.00	40.00	40.00	0.00	60.00	33.33	System is power/energy efficient	
0.00	18.18	10.00	20.00	40.00	46.67	16.67	40.00	33.33	Productivity aids help us keep programming costs down	
0.00	0.00	90.00	60.00	40.00	40.00	16.67	0.00	0.00	Data base language is efficient and effective	
0.00	18.18	10.00	20.00	40.00	46.67	16.67	40.00	33.33	Delivery and/or installation of equipment was ahead of schedule	
0.00	0.00	10.00	0.00	20.00	20.00	16.67	20.00	0.00	Delivery of required software was ahead of schedule	
0.00	0.00	50.00	40.00	0.00	6.67	0.00	0.00	33.33	Significant Problems (%)	
25.00	0.00	10.00	0.00	20.00	0.00	0.00	0.00	0.00	Computer proposed by vendor was too small	
25.00	9.09	10.00	0.00	20.00	6.67	16.67	0.00	0.00	Installation of equipment was late	
50.00	0.00	30.00	20.00	20.00	6.67	0.00	0.00	33.33	Delivery of required software was late	
50.00	9.09	30.00	20.00	40.00	0.00	0.00	0.00	0.00	System costs (for hardware, vendor-supplied software, support) exceeded the expected total	
25.00	9.09	0.00	0.00	20.00	6.67	0.00	0.00	0.00	Vendor did not provide all the promised software or support	
25.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	Program/data compatibility not what vendor promised	
25.00	18.18	20.00	40.00	0.00	6.67	0.00	20.00	0.00	Terminals/peripherals compatibility not what vendor promised	
25.00	0.00	0.00	0.00	20.00	0.00	16.67	40.00	0.00	Vendor enhancements/changes to hardware/software hard to keep up with	
25.00	9.09	0.00	0.00	0.00	6.67	50.00	20.00	0.00	Equipment is excessively noisy	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Power and/or cooling requirements are excessive	
3.25	3.45	3.60	3.00	3.60	3.29	3.40	3.20	3.67	System Ratings (4.0-0.0)	
2.75	3.64	3.60	2.80	3.40	3.60	3.00	3.60	3.33	Ease of operation	
2.50	2.82	2.90	2.40	3.20	2.87	2.80	3.40	3.00	Reliability of Mainframe	
3.00	3.36	3.30	3.00	3.60	3.57	3.40	3.40	3.67	Reliability of Peripherals	
2.50	2.91	3.10	3.00	3.40	3.21	3.20	3.40	3.00	Maintenance service:	
3.00	3.36	3.30	3.00	3.60	3.57	3.40	3.40	3.67	Responsiveness	
2.50	2.91	3.10	3.00	3.40	3.21	3.20	3.40	3.00	Effectiveness	
1.75	3.00	2.30	2.00	3.00	2.79	2.75	3.40	3.50	Technical support:	
2.75	2.73	2.60	2.60	2.40	2.80	2.67	3.00	3.33	Trouble-shooting	
2.50	2.73	2.40	2.40	1.80	2.73	2.83	3.00	3.00	Education	
3.25	3.45	3.70	2.20	3.60	3.33	3.50	3.75	3.00	Documentation	
2.25	3.36	3.60	2.60	3.60	3.00	3.00	3.50	3.50	Manufacturer's software:	
2.25	2.70	2.78	2.25	2.33	2.70	2.25	3.40	3.00	Operating system	
2.75	3.45	3.30	3.00	3.25	3.27	3.17	3.40	3.00	Compilers & Assemblers	
2.75	3.18	2.80	2.25	2.20	3.31	2.50	3.75	3.00	Applications Programs	
2.50	3.18	3.20	2.60	3.40	3.20	2.60	3.40	3.00	Ease of programming	
2.75	3.18	2.80	2.25	2.20	3.31	2.50	3.75	3.00	Ease of conversion	
2.50	3.18	3.20	2.60	3.40	3.20	2.60	3.40	3.00	Overall satisfaction	
75.00	81.82	100.00	8000	60.00	86.67	100.00	100.00	100.00	Did the system do what you expected it to do? (%)	
25.00	0.00	0.00	20.00	20.00	0.00	0.00	0.00	0.00	Yes	
0.00	18.18	0.00	0.00	20.00	13.33	0.00	0.00	0.00	No	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Haven't decided	
25.00	72.73	100.00	40.00	80.00	93.33	66.67	60.00	100.00	Would you recommend system to another user? (%)	
75.00	18.18	0.00	20.00	20.00	0.00	33.33	20.00	0.00	Yes	
0.00	9.09	0.00	40.00	0.00	6.67	0.00	0.00	0.00	No	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Haven't decided	

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

Survey Item	Manufacturer and Model	Basic Four 400/410	Basic Four 600/610	Basic Four 730	Basic Four (other models)	BTI 5000	Burroughs B 700	Burroughs B 80	Burroughs B 800	Burroughs B 90	Cado (all models)	Computer Automation (all models)
No. of User Responses	4	20	11	2	6	14	5	27	6	5	5	6
No. of Systems Represented	4	22	11	2	15	20	6	27	6	5	5	11
Avg. Life of System (Mos.)	21.3	17.9	21.0	20.5	27.4	58.3	28.6	19.9	9.3	11.6	20.2	
Acquisition Method (%)												
Purchase	100.00	70.00	100.00	100.00	83.30	92.31	40.00	81.48	66.67	80.00	66.67	
Rental or Lease from Mfr.	0.00	5.00	0.00	0.00	0.00	7.69	40.00	14.81	0.00	0.00	0.00	0.00
Lease from 3rd Party	0.00	25.00	0.00	0.00	16.70	0.00	20.00	3.70	33.33	20.00	33.33	
Principal Applications (%)												
Accounting/Billing	100.00	90.00	72.73	50.00	100.00	78.57	40.00	77.78	83.33	100.00	50.00	
Banking-check processing/loans/savings	0.00	5.00	9.09	50.00	0.00	7.14	40.00	25.93	0.00	0.00	0.00	0.00
Construction/Architecture	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	33.33	0.00	0.00	0.00
Education-scheduling/administration	0.00	0.00	0.00	0.00	16.67	0.00	20.00	0.00	16.67	0.00	0.00	0.00
Engineering/Scientific	0.00	0.00	9.09	0.00	0.00	0.00	0.00	3.70	0.00	0.00	0.00	0.00
Health care/Medical	0.00	5.00	0.00	0.00	0.00	14.29	20.00	11.11	0.00	0.00	0.00	0.00
Insurance	0.00	5.00	9.09	0.00	0.00	7.14	0.00	7.41	0.00	20.00	0.00	0.00
Manufacturing	25.00	25.00	36.36	50.00	0.00	14.29	0.00	18.52	0.00	0.00	0.00	16.67
Mathematics/Statistics	0.00	5.00	9.09	0.00	0.00	7.14	0.00	0.00	0.00	0.00	0.00	0.00
Order Processing/Inventory Control	100.00	75.00	45.45	50.00	33.33	35.71	0.00	40.74	0.00	20.00	0.00	66.67
Payroll/Personnel	50.00	85.00	45.45	50.00	83.33	35.71	40.00	44.44	83.33	40.00	33.33	
Petroleum/Fuel analysis	0.00	0.00	18.18	0.00	16.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Process control	0.00	5.00	9.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Purchasing	75.00	45.00	27.27	50.00	16.67	0.00	0.00	22.22	0.00	20.00	0.00	16.67
Sales Distribution	100.00	65.00	36.36	50.00	33.33	14.29	0.00	37.04	0.00	40.00	0.00	33.33
Other	0.00	15.00	36.36	50.00	33.33	21.43	0.00	3.70	16.67	0.00	0.00	0.00
Source of Applications Programs (%)												
In-house personnel	75.00	50.00	63.64	0.00	83.33	42.86	40.00	51.85	33.33	20.00	83.33	
"Ready-made" programs from manufacturer	0.00	30.00	27.27	0.00	0.00	42.86	60.00	51.85	50.00	80.00	0.00	
Contract Programming	50.00	80.00	63.64	0.00	16.67	42.86	40.00	44.44	16.67	0.00	16.67	
Manufacturer's Personnel	0.00	5.00	0.00	0.00	0.00	7.14	0.00	3.70	0.00	0.00	0.00	16.67
Proprietary Software Packages	25.00	40.00	45.45	100.00	33.33	14.29	20.00	29.63	33.33	0.00	16.77	
Location of Computer (%)												
Distributed Processing Site	0.00	0.00	0.00	0.00	0.00	7.69	0.00	3.70	0.00	0.00	0.00	83.33
Central Processing Installation	100.00	100.00	100.00	100.00	100.00	92.31	100.00	96.30	100.00	100.00	100.00	16.67
Using Local Workstations/Terminals (%)	100.00	100.00	100.00	100.00	100.00	82.86	100.00	96.30	100.00	100.00	100.00	83.33
Using Remote Workstations/Terminals (%)	50.00	35.00	45.45	0.00	100.00	82.86	80.00	100.00	100.00	100.00	0.00	83.33
Using Data Base Management System (%)	0.00	25.00	27.27	0.00	16.67	7.14	20.00	29.63	33.33	40.00	50.00	
None	100.00	75.00	72.73	100.00	83.33	85.71	80.00	66.67	66.67	60.00	50.00	
Manufacturer's Package	0.00	40.00	33.33	0.00	0.00	0.00	0.00	62.50	50.00	100.00	100.00	
Outside Vendor's Package	0.00	60.00	33.33	0.00	0.00	0.00	100.00	37.50	50.00	0.00	50.00	
Home-Grown System	0.00	0.00	33.33	0.00	100.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Using Communications Monitor (%)	25.00	5.00	36.36	0.00	66.67	0.00	0.00	40.74	33.33	0.00	0.00	33.33
None	75.00	95.00	63.64	100.00	33.33	100.00	100.00	48.15	66.67	100.00	100.00	33.33
Manufacturer's Package	100.00	100.00	100.00	0.00	100.00	0.00	0.00	90.91	0.00	100.00	50.00	
Outside Vendor's Package	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	50.00	
Home-Grown System	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.09	0.00	0.00	0.00	0.00
Using Integrated Word Processing Functions (%)	100.00	70.00	81.82	50.00	16.67	21.43	0.00	7.41	0.00	60.00	0.00	16.67
Planned Acquisitions/Implementations for 1981 (%)												
Additional Software from the Manufacturer	25.00	20.00	0.00	0.00	0.00	14.29	60.00	22.22	33.33	20.00	0.00	
Proprietary Software from other suppliers	25.00	20.00	27.27	0.00	16.67	7.14	20.00	22.22	33.33	20.00	0.00	
Expansions to Data Communications facilities	25.00	25.00	72.73	0.00	16.67	0.00	60.00	33.33	50.00	0.00	0.00	33.33
Distributed Processing capabilities	0.00	0.00	27.27	0.00	0.00	7.14	0.00	18.52	0.00	0.00	0.00	0.00
Expansions to present hardware	25.00	40.00	45.45	50.00	16.67	0.00	40.00	40.74	50.00	0.00	16.67	
Another Computer System, same model	25.00	5.00	9.09	0.00	66.67	0.00	0.00	7.41	0.00	0.00	0.00	33.33
Integrated Word Processing capabilities	0.00	10.00	9.09	0.00	16.67	7.14	0.00	11.11	16.67	0.00	0.00	0.00
Plans for system replacement in 1981 (%)												
Yes, same manufacturer	50.00	0.00	9.09	0.00	0.00	7.14	60.00	14.81	16.67	0.00	0.00	0.00
Yes, vendor unknown	25.00	0.00	0.00	0.00	0.00	14.29	0.00	0.00	0.00	20.00	0.00	16.67
Yes, different vendor	0.00	0.00	18.18	0.00	0.00	21.43	0.00	3.70	0.00	0.00	0.00	16.67
No	25.00	100.00	63.64	100.00	100.00	57.14	40.00	81.48	83.33	80.00	66.67	

## User Ratings of Computer Systems

Table 5. Minicomputers &amp; Small Business Computers

Harris	Hewlett-Packard	Honeywell	IBM	MICOS	Microdata	Modcomp	NCR	Nixdorf	Northern Telecom	Manufacturer and Model	
										Survey Item	
23.08	63.58	48.28	54.97	0.00	17.31	50.00	32.14	14.29	16.67	Significant Advantages (%)	
46.15	82.08	62.07	62.99	80.00	65.38	75.00	52.38	57.14	25.00	Users are happy with response time	
15.38	16.76	17.24	15.21	0.00	11.54	25.00	21.43	0.00	8.33	System is easy to expand/reconfigure	
7.69	30.64	24.14	37.96	0.00	17.31	50.00	32.14	14.29	16.67	System costs were less than expected	
0.00	11.56	17.24	10.06	20.00	17.31	50.00	15.48	0.00	8.33	Programs/data carried over from other systems are compatible, as vendor promised	
0.00	31.21	6.90	19.88	60.00	21.15	25.00	13.10	14.29	8.33	Terminals/peripherals carried over from other systems are compatible, as vendor promised	
15.38	47.40	13.79	44.19	40.00	44.23	0.00	13.10	28.57	8.33	System is power/energy efficient	
7.69	66.47	13.79	7.66	60.00	84.62	25.00	5.95	57.14	0.00	Productivity aids help us keep programming costs down	
7.69	21.39	13.79	14.25	40.00	9.62	25.00	10.71	14.29	8.33	Data base language is efficient and effective	
0.00	11.56	10.34	7.43	40.00	5.77	0.00	7.14	28.57	0.00	Delivery and/or installation of equipment was ahead of schedule	
0.00	11.56	10.34	7.43	40.00	5.77	0.00	7.14	28.57	0.00	Delivery of required software was ahead of schedule	
23.08	7.51	17.24	8.98	40.00	13.46	0.00	16.67	0.00	33.33	Significant Problems (%)	
38.46	8.09	17.24	4.67	0.00	13.46	25.00	13.10	0.00	16.67	Computer proposed by vendor was too small	
7.69	5.78	27.59	5.03	0.00	23.08	0.00	19.05	0.00	16.67	Installation of equipment was late	
15.38	6.36	13.79	7.19	40.00	7.69	25.00	15.48	0.00	0.00	Delivery of required software was late	
15.38	5.20	20.69	7.78	0.00	15.38	0.00	28.57	0.00	33.33	System costs (for hardware, vendor-supplied software, support) exceeded the expected total	
7.69	2.89	0.00	2.87	0.00	1.92	0.00	8.33	0.00	0.00	Vendor did not provide all the promised software or support	
0	2.89	3.45	1.20	0.00	1.92	0.00	3.57	0.00	0.00	Program/data compatibility not what vendor promised	
15.38	6.94	10.34	8.38	0.00	3.85	0.00	19.05	14.29	25.00	Terminals/peripherals compatibility not what vendor promised	
7.69	1.73	10.34	6.23	0.00	3.85	0.00	22.62	0.00	33.33	Vendor enhancements/changes to hardware/software hard to keep up with	
7.69	1.16	3.45	3.47	20.00	7.69	0.00	5.95	0.00	0.00	Equipment is excessively noisy	
7.69	1.73	10.34	6.23	0.00	3.85	0.00	22.62	0.00	33.33	Power and/or cooling requirements are excessive	
3.08	3.67	3.07	3.46	3.80	3.79	3.00	3.17	3.71	3.17	System Ratings (4.0-0.0)	
3.08	3.82	3.31	3.69	3.80	3.29	3.50	3.30	3.14	2.83	Ease of operation	
2.38	3.51	3.00	3.49	3.40	3.10	3.50	3.04	2.86	2.42	Reliability of Mainframe	
2.62	3.38	2.83	3.38	3.40	3.29	3.25	3.00	3.43	3.00	Reliability of Peripherals	
2.62	3.39	2.83	3.32	3.20	3.06	3.25	2.91	3.17	2.18	Maintenance service:	
2.62	3.39	2.83	3.32	3.20	3.06	3.25	2.91	3.17	2.18	Responsiveness	
2.62	3.39	2.83	3.32	3.20	3.06	3.25	2.91	3.17	2.08	Effectiveness	
2.15	2.99	2.62	2.92	3.20	2.78	3.25	2.45	3.43	2.75	Technical support:	
2.08	3.05	2.37	2.91	3.00	2.44	2.50	2.44	3.17	2.00	Trouble-shooting	
2.17	3.05	2.33	2.94	2.60	2.52	2.25	2.25	3.00	2.08	Education	
2.17	3.05	2.33	2.94	2.60	2.52	2.25	2.25	3.00	2.08	Documentation	
3.15	3.59	2.83	3.34	3.50	3.78	3.25	2.85	3.17	2.70	Manufacturer's software:	
2.75	3.39	2.96	3.35	—	3.56	3.50	2.94	3.17	2.50	Operating system	
2.71	3.01	2.57	2.85	3.00	3.13	3.33	2.41	3.25	2.33	Compilers & Assemblers	
3.00	3.45	2.96	3.30	3.50	3.72	3.00	2.91	3.67	2.80	Applications Programs	
2.70	3.17	2.64	3.04	3.00	3.40	2.75	2.75	3.40	2.71	Ease of Programming	
2.77	3.54	2.86	3.34	3.40	3.42	3.50	2.77	3.33	2.58	Ease of conversion	
2.77	3.54	2.86	3.34	3.40	3.42	3.50	2.77	3.33	2.58	Overall satisfaction	
84.62	89.60	68.97	90.42	100.00	94.23	100.00	80.95	85.71	83.33	Did the system do what you expected it to do? (%)	
15.38	0.58	6.90	3.35	0.00	3.85	0.00	13.10	0.00	8.33	Yes	
0.00	8.67	20.69	5.99	0.00	1.92	0.00	5.95	14.29	8.33	No	
0.00	8.67	20.69	5.99	0.00	1.92	0.00	5.95	14.29	8.33	Haven't decided	
69.23	92.44	68.97	86.83	80.00	88.46	75.00	61.45	100.00	58.33	Would you recommend system to another user? (%)	
15.38	1.16	20.69	8.14	0.00	9.62	0.00	27.71	0.00	16.67	Yes	
15.38	6.40	10.34	4.43	20.00	1.92	25.00	10.84	0.00	25.00	No	
15.38	6.40	10.34	4.43	20.00	1.92	25.00	10.84	0.00	25.00	Haven't decided	

## User Ratings of Computers Systems

Table 2. Minicomputers &amp; Small Business Computers

Basic Four 400/410	Basic Four 600/610	Basic Four 730	Basic Four (other models)	BTI 5000	Burroughs B 700	Burroughs B 80	Burroughs B 800	Burroughs B 90	Cadd (all models)	Computer Automation (all models)	Manufacturer and Model	
											Survey Item	
25.00	75.00	45.45	50.00	100.00	28.75	0.00	13.46	66.67	60.00	33.33	Significant Advantages (%)	
50.00	70.00	63.64	0.00	100.00	21.43	40.00	59.26	66.67	60.00	33.33	Users are happy with response time	
0.00	20.00	0.00	0.00	0.00	7.14	0.00	0.00	50.00	40.00	0.00	System is easy to expand/reconfigure	
0.00	35.00	18.18	50.00	33.33	0.00	20.00	14.81	0.00	0.00	0.00	System costs were less than expected	
0.00	30.00	9.09	0.00	66.67	0.00	0.00	14.81	16.67	0.00	0.00	Programs/data carried over from other systems are compatible, as vendor promised	
0.00	20.00	36.36	0.00	33.33	7.14	20.00	11.11	16.67	20.00	0.00	Terminals/peripherals carried over from other system are compatible, as vendor promised	
25.00	40.00	27.27	100.00	33.33	0.00	0.00	11.11	16.67	20.00	33.33	System is power/energy efficient	
50.00	15.00	18.18	50.00	0.00	0.00	0.00	11.11	16.67	0.00	0.00	Productivity aids help us keep programming costs down	
0.00	30.00	0.00	0.00	33.33	0.00	20.00	3.70	33.33	60.00	16.67	Data base language is efficient and effective	
0.00	20.00	0.00	0.00	16.67	0.00	0.00	3.70	33.33	40.00	0.00	Delivery and/or installation of equipment was ahead of schedule	
50.00	5.00	18.18	0.00	0.00	21.43	40.00	33.33	0.00	0.00	16.67	Delivery of required software was late	
0.00	5.00	9.09	0.00	0.00	0.00	20.00	48.15	33.33	0.00	16.67	System costs (for hardware, vendor-supplied software, support) exceeded the expected total	
25.00	0.00	0.00	0.00	0.00	7.14	20.00	25.93	33.33	20.00	16.67	Vendor did not provide all the promised software or support	
0.00	0.00	0.00	0.00	0.00	21.43	0.00	29.63	16.67	0.00	33.33	Program/data compatibility not what vendor promised	
25.00	10.00	0.00	0.00	0.00	28.57	20.00	14.81	50.00	20.00	50.00	Terminals/peripherals compatibility not what vendor promised	
0.00	5.00	0.00	0.00	0.00	14.29	0.00	18.53	16.67	20.00	16.67	Vendor enhancements/changes to hardware/software hard to keep up with	
25.00	5.00	18.18	0.00	0.00	14.29	20.00	42.86	16.67	0.00	0.00	Equipment is excessively noisy	
25.00	5.00	0.00	0.00	0.00	14.29	0.00	3.70	0.00	0.00	16.67	Power and/or cooling requirements are excessive	
3.75	3.80	3.55	4.00	4.00	3.07	3.00	3.08	3.17	3.20	3.17	System Ratings (4.0-0.0)	
2.75	3.60	3.45	4.00	3.83	3.14	3.80	3.07	3.50	3.40	2.50	Ease of operation	
3.00	3.26	3.18	3.50	3.50	2.50	3.60	2.62	3.17	3.40	1.83	Reliability of Mainframe	
3.00	2.95	3.18	3.50	3.67	2.50	2.80	2.74	2.67	3.20	2.50	Reliability of Peripherals	
2.50	3.05	3.10	3.50	3.67	2.57	3.00	2.69	3.17	3.00	2.50	Maintenance service:	
2.33	2.72	2.27	3.50	3.67	2.08	3.00	2.08	2.50	2.80	2.00	Responsiveness	
2.00	2.47	1.91	3.00	2.83	2.17	2.67	2.35	3.33	2.80	2.17	Effectiveness	
1.67	2.50	2.09	3.00	2.83	1.83	1.60	2.26	2.67	2.80	1.83	Technical support:	
2.33	3.68	3.18	4.00	3.83	3.00	3.25	3.07	3.67	3.20	2.83	Trouble-shooting	
2.67	3.73	3.20	4.00	3.50	2.17	3.00	2.76	3.40	4.00	2.83	Education	
3.50	3.33	3.00	3.00	3.00	2.20	3.00	2.33	2.60	3.40	2.00	Documentation	
3.67	3.70	3.45	4.00	3.67	2.50	2.67	2.78	3.00	2.50	2.83	Manufacturer's software:	
2.00	3.21	2.90	3.50	3.33	2.10	3.00	2.65	2.50	1.75	2.40	Operating system	
2.50	3.45	3.00	4.00	3.83	2.64	2.75	2.62	3.00	3.50	2.33	Compilers & Assemblers	
3.67	3.70	3.45	4.00	3.67	2.50	2.67	2.78	3.00	2.50	2.83	Applications Programs	
2.00	3.21	2.90	3.50	3.33	2.10	3.00	2.65	2.50	1.75	2.40	Ease of Programming	
2.50	3.45	3.00	4.00	3.83	2.64	2.75	2.62	3.00	3.50	2.33	Ease of conversion	
3.67	3.70	3.45	4.00	3.67	2.50	2.67	2.78	3.00	2.50	2.83	Overall satisfaction	
75.00	95.00	81.82	100.00	100.00	71.43	80.00	48.15	50.00	80.00	66.67	Did the system do what you expected it to do? (%)	
0.00	5.00	9.09	0.00	0.00	28.57	20.00	29.63	16.67	20.00	33.33	Yes	
25.00	0.00	9.09	0.00	0.00	0.00	0.00	22.22	33.33	0.00	0.00	No	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Haven't decided	
75.00	95.00	72.73	100.00	100.00	50.00	60.00	66.67	66.67	80.00	50.00	Would you recommend system to another user? (%)	
25.00	5.00	18.18	0.00	0.00	42.86	20.00	18.52	16.67	20.00	33.33	Yes	
0.00	0.00	9.09	0.00	7.14	0.00	11.11	16.67	16.67	0.00	16.67	No	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Haven't decided	

## User Ratings of Computer Systems

Table 5. Minicomputers &amp; Small Business Computers

Survey Item	Manufacturer and Model	Perkin-Elmer	Point 4	Prime	Quantel	Tandem	Texas Instruments	Univac	Wang	Minis & SBC's (All other models)
No. of User Responses		19	8	67	19	10	46	26	96	37
No. of Systems Represented		37	12	89	21	19	56	36	112	46
Avg. Life of System (Mos.)		20.2	17.6	19.8	15.9	14.9	16.2	66.7	19.8	40.1
Acquisition Method (%)										
Purchase										
Rental or Lease from Mfr.		84.21	87.50	59.70	78.95	80.00	82.61	42.31	62.50	70.27
Lease from 3rd Party		0.00	0.00	25.37	0.00	0.00	0.00	50.00	22.92	16.22
		15.79	12.50	14.93	21.05	20.00	17.39	7.69	14.58	13.51
Principal Applications (%)										
Accounting/Billing										
Banking-check processing/loans/savings		47.37	88.89	52.24	94.74	30.00	80.43	65.38	73.20	67.57
Construction/Architecture		15.79	0.00	4.48	5.26	20.00	2.17	0.00	2.06	2.70
Education-scheduling/administration		5.26	0.00	5.97	5.26	0.00	8.70	3.85	4.12	5.41
Engineering/Scientific		10.53	11.11	11.94	0.00	20.00	4.35	3.85	6.19	8.11
Health care/Medical		15.79	0.00	28.36	0.00	20.00	6.52	3.85	9.28	13.51
Insurance		10.53	11.11	2.99	10.53	20.00	6.52	0.00	8.25	0.00
Manufacturing		5.26	11.11	2.99	5.26	0.00	6.52	0.00	9.28	5.41
Mathematics/Statistics		10.53	11.11	13.43	42.11	0.00	17.39	11.54	14.43	21.62
Order Processing/Inventory Control		5.26	11.11	23.85	5.26	10.00	13.04	15.38	12.37	16.22
Payroll/Personnel		36.84	44.44	32.84	78.95	20.00	47.83	46.15	50.52	62.16
Petroleum/Fuel analysis		15.79	55.56	38.81	68.42	20.00	52.17	50.00	49.48	43.24
Process control		0.00	0.00	2.99	0.00	0.00	2.17	3.85	3.09	0.00
Purchasing		15.79	0.00	4.48	0.00	0.00	2.17	7.69	4.12	8.11
Sales Distribution		21.05	11.11	14.93	52.63	0.00	26.09	23.08	25.77	21.62
Other		21.05	33.33	17.91	73.68	0.00	32.61	34.62	36.08	29.73
		26.32	55.56	35.82	21.05	30.00	21.74	34.62	27.84	21.62
Source of Applications Programs (%)										
In-house personnel										
"Ready-made" programs from manufacturer		73.68	88.89	88.06	52.63	80.00	86.96	88.46	77.32	64.86
Contract Programming		21.05	0.00	23.88	78.95	20.00	13.04	30.77	19.59	35.14
Manufacturer's Personnel		26.32	22.22	32.84	73.68	20.00	34.78	34.62	31.96	43.24
Proprietary Software Packages		10.53	0.00	4.48	10.53	0.00	2.17	11.54	5.15	5.41
		47.37	44.44	46.27	5.26	50.00	23.91	7.69	41.24	21.62
Location of Computer (%)										
Distributed Processing Site										
Central Processing Installation		26.32	12.50	8.96	0.00	30.00	10.87	0.00	7.22	17.14
		73.68	87.50	91.04	100	70.00	89.13	100.00	92.78	82.86
Using Local Workstations/Terminals (%)		100.00	100.00	100.00	100.00	100.00	100.00	100.00	97.94	78.38
Using Remote Workstations/Terminals (%)		100.00	100.00	100.00	89.47	100.00	100.00	100.00	98.97	24.33
Using Data Base Management System (%)										
None		36.84	44.44	43.28	63.16	80.00	23.91	26.92	23.71	18.92
Manufacturer's Package		63.16	55.56	56.72	36.84	20.00	76.09	73.08	76.19	75.68
Outside Vendor's Package		57.14	50.00	60.71	81.82	87.50	45.45	42.86	33.33	57.14
Home-Grown System		28.57	0.00	28.57	9.09	12.50	0.00	0.00	38.10	14.29
		14.29	50.00	10.71	9.09	0.00	54.55	57.14	28.57	28.57
Using Communications Monitor (%)										
None		47.37	11.11	28.36	26.32	50.00	34.78	30.77	24.74	29.73
Manufacturer's Package		52.63	88.89	71.64	73.68	50.00	65.22	69.23	75.26	67.57
Outside Vendor's Package		44.44	0.00	68.42	75.00	60.00	80.00	75.00	86.36	80.00
Home-Grown System		44.44	0.00	15.79	25.00	40.00	20.00	12.50	4.55	10.00
		11.11	100.00	15.79	0.00	0.00	0.00	12.50	9.09	10.00
Using Integrated Word Processing Functions (%)		10.53	55.56	46.27	68.42	40.00	52.17	7.69	59.79	37.84
Planned Acquisitions/Implementations for 1981 (%)		10.53	55.56	46.27	68.42	40.00	52.17	7.69	59.79	37.84
Additional Software from the Manufacturer										
Proprietary Software from other suppliers		26.32	33.33	26.87	36.84	40.00	28.26	7.69	18.56	29.73
Expansions to Data Communications facilities		31.58	11.11	29.85	21.05	20.00	19.57	19.23	24.74	18.92
Distributed Processing capabilities		47.37	11.11	40.30	21.05	20.00	41.30	30.77	34.02	29.73
Expansions to present hardware		10.53	11.11	7.46	10.53	0.00	19.57	15.38	13.40	13.51
Another Computer System, same model		47.37	55.56	61.19	52.63	90.00	58.70	30.77	48.45	40.54
Integrated Word Processing capabilities		15.79	0.00	17.91	0.00	0.00	6.52	11.54	7.22	18.92
		5.79	22.22	14.93	0.00	0.00	15.22	0.00	16.49	5.41
Plans for system replacement in 1981 (%)										
Yes, same manufacturer										
Yes, vendor unknown		5.26	0.00	7.46	0.00	0.00	6.52	19.23	7.22	8.11
Yes, different vendor		5.26	0.00	1.49	0.00	0.00	2.17	15.38	6.19	8.11
No		5.26	0.00	0.00	5.26	0.00	0.00	11.54	7.22	8.11
		84.21	100.00	91.04	94.74	100.00	91.30	53.85	78.35	75.68

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

Survey Item	Data General CS 40, 50	Data General CS 60	Data General Eclipse C	Data General Eclipse S	Data General microNova	Data General Nova 2	Data General Nova 3	Data General Nova 4	Data General Nova 800	Data General (other models)	Datapoint ARC
No. of User Responses	5	10	41	15	6	4	28	17	7	7	13
No. of Systems Represented	5	11	55	20	6	5	41	32	14	10	33
Avg. Life of System (Mos.)	12.0	21.3	19.6	28.6	23.3	64.7	37.5	9.1	66.0	27.0	10.8
Acquisition Method (%)											
Purchase	80.00	90.00	87.80	93.33	100.00	75.00	92.86	88.24	85.71	50.00	53.85
Rental or Lease from Mfr.	0.00	0.00	0.00	0.00	0.00	0.00	3.57	0.00	0.00	16.67	38.46
Lease from 3rd Party	20.00	10.00	12.20	6.67	0.00	25.00	3.57	11.76	14.29	33.33	7.69
Principal Applications (%)											
Accounting/Billing	80.00	90.00	70.73	60.00	66.67	75.00	67.86	41.18	14.29	71.43	61.54
Banking-check processing/loans/savings	0.00	0.00	7.32	0.00	0.00	0.00	3.57	11.76	0.00	14.29	0.00
Construction/Architecture	20.00	10.00	0.00	13.33	0.00	0.00	10.71	5.88	0.00	0.00	15.38
Education-scheduling/administration	0.00	0.00	7.32	13.33	0.00	0.00	14.29	11.76	28.57	0.00	7.69
Engineering/Scientific	0.00	0.00	14.63	46.67	16.67	0.00	3.57	11.76	14.29	42.86	7.69
Health care/Medical	20.00	0.00	2.44	6.67	0.00	0.00	10.71	11.76	0.00	0.00	0.00
Insurance	0.00	0.00	0.00	6.67	0.00	0.00	7.14	5.88	0.00	14.29	7.69
Manufacturing	60.00	30.00	31.71	13.33	0.00	0.00	21.43	0.00	0.00	0.00	15.38
Mathematics/Statistics	0.00	0.00	9.76	26.67	0.00	25.00	7.14	5.88	28.57	23.08	
Order Processing/Inventory Control	80.00	70.00	56.10	33.33	50.00	50.00	42.86	23.53	14.29	28.57	38.46
Payroll/Personnel	60.00	40.00	41.46	26.67	50.00	25.00	39.29	23.53	28.57	14.29	30.77
Petroleum/Fuel analysis	20.00	0.00	0.00	6.67	0.00	0.00	0.00	0.00	0.00	0.00	7.69
Process control	0.00	0.00	2.44	6.67	0.00	0.00	0.00	11.76	14.29	0.00	7.69
Purchasing	20.00	20.00	21.95	20.00	16.67	0.00	17.86	11.76	28.57	14.29	23.08
Sales Distribution	40.00	30.00	39.02	33.33	16.67	25.00	28.57	11.76	0.00	42.86	30.77
Other	20.00	0.00	31.71	26.67	33.33	0.00	25.00	41.18	42.86	14.29	23.08
Source of Applications Programs (%)											
In-house personnel	100.00	80.00	85.37	100.00	83.33	50.00	75.00	52.94	57.14	71.43	84.26
"Ready-made" programs from manufacturer	20.00	10.00	14.63	13.33	16.67	25.00	7.14	5.88	14.29	28.57	15.38
Contract Programming	20.00	50.00	24.39	26.67	16.67	25.00	39.29	29.41	28.57	42.86	46.15
Manufacturer's Personnel	0.00	0.00	2.44	0.00	0.00	0.00	7.14	5.88	0.00	0.00	0.00
Proprietary Software Packages	20.00	70.00	39.02	33.33	16.67	50.00	28.57	41.18	14.29	71.43	30.77
Location of Computer (%)											
Distributed Processing Site	0.00	0.00	4.88	6.67	16.67	0.00	3.57	17.65	14.29	0.00	23.08
Central Processing Installation	100.00	100.00	95.12	93.33	83.33	100.00	96.43	82.35	85.71	100.00	76.92
Using Local Workstations/Terminals (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Using Remote Workstations/Terminals (%)	80.00	100.00	97.56	100.00	100.00	100.00	100.00	94.12	100.00	100.00	100.00
Using Data Base Management System (%)											
None	100.00	100.00	48.78	73.33	66.67	100.00	71.43	88.24	85.71	57.14	92.31
Manufacturer's Package	0.00	0.00	60.00	0.00	50.00	0.00	50.00	50.00	0.00	0.00	0.00
Outside Vendor's Package	0.00	0.00	15.00	50.00	0.00	0.00	25.00	0.00	0.00	50.00	0.00
Home-Grown System	0.00	0.00	25.00	50.00	50.00	0.00	25.00	50.00	100.00	50.00	100.00
Using Communications Monitor (%)											
None	40.00	10.00	31.71	33.33	16.67	0.00	14.29	29.41	42.86	42.86	15.38
Manufacturer's Package	60.00	90.00	68.29	66.67	83.33	100.00	85.71	70.59	57.14	57.14	76.92
Outside Vendor's Package	100.00	100.00	58.33	20.00	0.00	0.00	50.00	75.00	33.33	0.00	0.00
Home-Grown System	0.00	0.00	25.00	40.00	100.00	0.00	25.00	25.00	33.33	100.00	100.00
Using Integrated Word Processing Functions (%)	40.00	30.00	26.83	13.33	16.67	0.00	21.43	41.18	0.00	14.29	7.69
Planned Acquisitions/Implementations for 1981 (%)											
Additional Software from the Manufacturer	40.00	0.00	31.71	26.67	0.00	0.00	14.29	23.53	14.29	14.29	38.46
Proprietary Software from other suppliers	60.00	20.00	39.02	26.67	33.33	25.00	17.86	29.41	14.29	28.57	38.46
Expansions to Data Communications facilities	40.00	0.00	24.39	33.33	16.67	0.00	21.43	35.29	14.29	14.29	15.38
Distributed Processing capabilities	20.00	10.00	7.32	20.00	0.00	0.00	7.14	17.65	0.00	0.00	23.08
Expansions to present hardware	80.00	50.00	46.34	60.00	33.33	25.00	64.29	47.06	42.86	28.57	46.15
Another Computer System, same model	20.00	10.00	4.88	13.33	16.67	0.00	10.71	17.65	14.29	28.57	7.69
Integrated Word Processing capabilities	20.00	20.00	14.63	13.33	0.00	0.00	17.86	17.65	0.00	0.00	38.46
Plans for system replacement in 1981 (%)											
Yes, same manufacturer	0.00	0.00	2.44	0.00	33.33	0.00	7.14	11.76	0.00	14.29	0.00
Yes, vendor unknown	0.00	20.00	0.00	13.33	0.00	0.00	3.57	0.00	14.29	14.29	0.00
Yes, different vendor	0.00	0.00	4.88	6.67	16.67	0.00	7.14	0.00	14.29	0.00	0.00
No	100.00	80.00	90.24	80.00	50.00	75.00	78.57	88.24	71.43	71.43	100.00

## User Ratings of Computer Systems

Table 5. Minicomputers &amp; Small Business Computers

Perkin-Elmer	Point 4	Prime	Qantel	Tandem	Texas Instruments	Univac	Wang	Minis & SBC's (All other models)	Manufacturer and Model	
									Survey Item	
									Significant Advantages (%)	
21.05	44.44	26.87	42.11	20.00	28.26	26.92	63.92	35.14	Users are happy with response time	
78.95	100.00	86.57	63.16	100.00	82.61	38.46	77.32	48.65	System is easy to expand/reconfigure	
26.32	55.56	19.40	21.05	0.00	28.26	11.54	20.62	24.32	System costs were less than expected	
21.05	44.44	26.87	42.11	20.00	28.26	7.69	25.77	18.92	Programs/data carried over from other systems are compatible, as vendor promised	
31.58	66.67	29.85	21.05	10.00	21.74	0.00	8.25	21.62	Terminals/peripherals carried over from other systems are compatible, as vendor promised	
26.32	55.56	14.93	26.32	30.00	39.13	19.23	30.93	18.92	System is power/energy efficient	
31.58	44.44	37.31	42.11	50.00	45.65	15.38	59.79	27.03	Productivity aids help us keep programming costs down	
15.79	11.11	22.39	52.63	80.00	10.87	7.69	15.46	8.11	Data base language is efficient and effective	
21.05	33.33	25.37	31.58	20.00	30.43	0.00	14.43	10.81	Delivery and/or installation of equipment was ahead of schedule	
15.79	22.22	11.94	26.32	0.00	19.57	0.00	13.40	10.81	Delivery of required software was ahead of schedule	
									Significant Problems (%)	
15.79	0.00	14.93	15.79	20.00	2.17	7.69	13.40	10.81	Computer proposed by vendor was too small	
21.05	11.11	4.48	15.79	20.00	8.70	23.08	21.65	10.81	Installation of equipment was late	
26.32	22.22	5.97	5.26	10.00	8.70	11.54	10.31	10.81	Delivery of required software was late	
10.53	11.11	5.97	15.79	0.00	8.70	7.69	8.25	2.70	System costs (for hardware, vendor-supplied software, support) exceeded the expected total	
15.79	0.00	2.99	15.79	10.00	2.17	15.38	18.56	13.51	Vendor did not provide all the promised software or support	
5.26	0.00	5.97	0.00	0.00	0.00	15.38	5.15	5.41	Program/data compatibility not what vendor promised	
5.26	0.00	0.00	0.00	0.00	0.00	3.85	2.06	5.41	Terminals/peripherals compatibility not what vendor promised	
26.32	11.11	8.96	15.79	10.00	15.22	19.23	7.22	8.11	Vendor enhancements/changes to hardware/software hard to keep up with	
10.53	0.00	5.97	0.00	0.00	8.70	23.08	7.22	5.41	Equipment is excessively noisy	
0.00	0.00	2.99	5.26	0.00	0.00	30.77	7.22	10.81	Power and/or cooling requirements are excessive	
									System Ratings (4.0-0.0)	
3.26	3.78	3.60	3.68	3.70	3.55	2.92	3.66	3.41	Ease of operation	
3.63	3.88	3.64	3.47	3.80	3.72	2.80	3.54	3.42	Reliability of Mainframe	
3.05	3.56	3.32	3.21	2.80	3.53	2.44	3.07	3.08	Reliability of Peripherals	
3.32	3.11	3.12	3.39	3.30	3.27	3.08	2.68	3.09	Maintenance service:	
3.00	3.22	2.91	3.28	3.11	3.12	2.58	2.64	3.05	Responsiveness	
									Effectiveness	
2.63	3.44	2.83	2.89	2.80	2.91	2.27	2.57	2.69	Technical support:	
2.41	3.00	2.69	2.72	3.20	2.64	2.27	2.41	2.48	Trouble-shooting	
2.47	2.89	2.78	2.50	2.80	2.87	2.00	2.44	2.76	Education	
									Documentation	
2.74	3.67	3.61	3.56	3.80	3.40	2.60	3.42	3.18	Manufacturer's software:	
3.21	3.67	3.36	3.61	3.50	3.34	2.85	3.48	2.86	Operating system	
2.75	3.38	2.98	3.22	2.33	2.94	2.57	3.05	2.79	Compilers & Assemblers	
3.06	3.78	3.34	3.39	3.60	3.47	2.84	3.59	3.10	Applications Programs	
3.00	3.43	3.15	3.40	3.38	3.23	2.29	3.10	2.68	Ease of Programming	
3.16	3.78	3.46	3.22	3.70	3.52	2.54	3.27	3.00	Ease of conversion	
									Overall satisfaction	
89.47	100.00	86.57	84.21	100.00	93.48	61.54	85.57	83.78	Did the system do what you expected it to do? (%)	
5.26	0.00	2.99	5.26	0.00	4.35	19.23	7.22	5.41	Yes	
5.26	0.00	10.45	10.53	0.00	2.17	15.38	7.22	10.81	No	
									Haven't decided	
89.47	100.00	88.06	89.47	90.00	91.30	36.00	81.44	68.09	Would you recommend system to another user? (%)	
5.26	0.00	4.48	5.26	0.00	0.00	48.00	13.40	17.02	Yes	
5.26	0.00	7.46	5.26	10.00	8.70	16.00	5.15	12.77	No	
									Haven't decided	

## User Ratings of Computers Systems

Table 2. Minicomputers &amp; Small Business Computers

											Manufacturer and Model
											Survey Item
Data General CS 40, 50	Data General CS 60	Data General Eclipse C	Data General Eclipse S	Data General microNova	Data General Nova 2	Data General Nova 3	Data General Nova 4	Data General Nova 800	Data General (other models)	Datapoint ARC	
100.00	30.00	43.90	46.67	16.67	50.00	50.00	64.71	71.43	14.29	69.23	Significant Advantages (%)
80.00	70.00	73.17	66.67	83.33	25.00	53.57	82.35	14.29	14.29	25.49	Users are happy with response time
40.00	20.00	14.63	6.67	33.33	25.00	25.00	11.76	0.00	14.29	15.38	System is easy to expand/reconfigure
20.00	20.00	26.83	6.67	50.00	0.00	21.43	41.18	0.00	28.57	53.85	System costs were less than expected
0.00	20.00	21.95	13.33	16.67	0.00	21.43	47.06	14.29	14.29	23.08	Programs/data carried over from other systems are compatible, as vendor promised
60.00	20.00	19.51	13.33	0.00	25.00	14.29	11.76	14.29	0.00	23.08	Terminals/peripherals carried over from other systems are compatible, as vendor promised
60.00	40.00	34.15	46.67	0.00	0.00	25.00	29.41	14.29	0.00	7.69	System is power/energy efficient
0.00	10.00	26.83	13.33	0.00	0.00	14.29	5.88	14.29	14.29	0.00	Productivity aids help us keep programming costs down
0.00	20.00	14.63	13.33	0.00	0.00	7.14	0.00	0.00	14.29	7.69	Data base language is efficient and effective
20.00	20.00	14.63	6.67	0.00	0.00	3.57	11.76	0.00	0.00	0.00	Delivery and/or installation of equipment was ahead of schedule
0.00	20.00	12.20	33.33	0.00	0.00	25.00	23.53	14.29	28.57	7.69	Delivery of required software was ahead of schedule
0.00	10.00	21.95	26.67	33.33	0.00	10.71	29.41	28.57	0.00	7.69	Significant Problems (%)
0.00	20.00	12.20	13.33	33.33	25.00	25.00	11.76	28.57	0.00	7.69	Computer proposed by vendor was too small
0.00	10.00	4.88	13.33	0.00	25.00	10.71	29.41	42.86	14.29	0.00	Installation of equipment was late
0.00	0.00	12.20	33.33	33.33	50.00	28.57	29.41	28.57	14.29	15.38	Delivery of required software was late
0.00	0.00	4.88	0.00	16.67	0.00	3.57	5.88	28.57	14.29	7.69	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
0.00	0.00	4.88	13.33	16.67	0.00	0.00	0.00	0.00	0.00	0.00	Vendor did not provide all the promised software or support
0.00	0.00	29.27	26.67	0.00	0.00	14.29	11.76	14.29	14.29	7.69	Program/data compatibility not what vendor promised
0.00	0.00	14.63	6.67	0.00	0.00	7.14	29.41	14.29	0.00	23.08	Terminals/peripherals compatibility not what vendor promised
0.00	0.00	17.07	20.00	0.00	25.00	3.57	5.88	14.29	0.00	0.00	Vendor enhancements/changes to hardware/software hard to keep up with
0.00	0.00	14.63	6.67	0.00	0.00	7.14	29.41	14.29	0.00	23.08	Equipment is excessively noisy
0.00	0.00	17.07	20.00	0.00	25.00	3.57	5.88	14.29	0.00	0.00	Power and/or cooling requirements are excessive
3.80	3.90	3.35	3.53	3.20	3.00	3.39	3.41	2.86	2.86	3.69	System Ratings (4.0-0.0)
3.60	3.90	3.22	3.60	3.50	3.00	3.25	3.41	3.00	3.14	3.54	Ease of operation
3.20	3.10	2.93	3.07	3.17	3.00	3.00	3.00	2.86	2.86	3.38	Reliability of Mainframe
3.40	3.60	2.63	2.47	3.33	2.25	2.82	2.94	2.43	3.00	3.38	Reliability of Peripherals
3.20	3.50	2.59	2.60	3.00	2.25	2.73	2.88	2.86	2.71	3.23	Maintenance service:
2.60	2.80	2.35	2.40	2.17	1.67	2.48	2.76	2.43	2.14	2.54	Responsiveness
3.00	2.70	2.55	2.73	2.00	2.00	2.14	2.67	2.00	2.43	2.46	Effectiveness
3.00	2.90	2.49	2.53	2.00	2.26	2.53	2.00	2.29	2.29	2.00	Technical support:
3.50	3.33	3.26	3.17	3.00	2.33	2.92	3.12	2.83	2.71	3.23	Trouble-shooting
3.50	3.75	3.03	2.83	3.00	2.33	2.86	3.07	2.67	2.67	3.15	Education
3.00	1.00	2.74	2.88	2.33	1.00	2.27	3.29	2.60	2.75	3.00	Documentation
3.80	3.75	3.16	3.36	3.00	2.00	3.12	3.27	2.50	2.83	3.00	Manufacturer's software:
3.00	3.67	2.94	2.36	3.50	1.00	2.70	3.50	2.33	2.83	3.46	Operating system
3.20	3.44	2.95	3.13	2.67	2.50	2.92	3.18	2.50	3.00	3.23	Compilers & Assemblers
3.80	3.75	3.16	3.36	3.00	2.00	3.12	3.27	2.50	2.83	3.00	Applications Programs
3.00	3.67	2.94	2.36	3.50	1.00	2.70	3.50	2.33	2.83	3.46	Ease of Programming
3.20	3.44	2.95	3.13	2.67	2.50	2.92	3.18	2.50	3.00	3.23	Ease of conversion
3.00	3.67	2.94	2.36	3.50	1.00	2.70	3.50	2.33	2.83	3.46	Overall satisfaction
80.00	90.00	85.37	86.67	83.33	50.00	82.14	88.24	71.43	71.43	100.00	Did the system do what you expected it to do? (%)
0.00	0.00	4.88	6.67	16.67	25.00	10.71	5.88	28.57	28.57	0.00	Yes
20.00	10.00	9.76	6.67	0.00	25.00	7.14	5.88	0.00	0.00	0.00	No
0.00	0.00	12.20	6.67	16.67	25.00	14.29	5.88	57.14	57.14	0.00	Haven't decided
80.00	80.00	65.85	73.33	66.67	50.00	71.43	82.35	42.86	100.00	100.00	Would you recommend system to another user? (%)
0.00	0.00	21.95	20.00	16.67	25.00	14.29	11.76	0.00	0.00	0.00	Yes
20.00	20.00	21.95	20.00	16.67	25.00	14.29	11.76	0.00	0.00	0.00	No
0.00	0.00	21.95	20.00	16.67	25.00	14.29	11.76	0.00	0.00	0.00	Haven't decided

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

Manufacturer and Model	Datapoint 1500	Datapoint 1800	Datapoint 5500	Datapoint 6600	Datapoint (other models)	DEC Datasystem 300	DEC Datasystem 500	DEC LSI-11	DEC PDP-8	DEC PDP-11/03	DEC PDP-11/23
<b>Survey Item</b>											
No. of User Responses	7	7	4	20	9	8	4	6	6	10	13
No. of Systems Represented	9	15	8	37	22	10	4	10	11	17	14
Avg. Life of System (Mos.)	14.7	9.3	45.0	13.9	31.4	22.8	17.3	21.8	48.3	24.3	7.6
Acquisition Method (%)											
Purchase	57.14	57.14	50.00	60.00	77.78	75.00	75.00	83.33	83.33	100.00	100.00
Rental or Lease from Mfr.	14.29	42.86	25.00	35.00	22.22	12.50	0.00	0.00	0.00	0.00	0.00
Lease from 3rd Party	28.57	0.00	25.00	5.00	0.00	12.50	25.00	16.67	16.67	0.00	0.00
Principal Applications (%)											
Accounting/Billing	57.14	85.71	75.00	80.00	77.78	100.00	75.00	16.67	50.00	30.00	76.92
Banking-check processing/loans/savings	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	16.67	0.00	0.00
Construction/Architecture	0.00	0.00	0.00	15.00	11.11	0.00	25.00	0.00	0.00	0.00	0.00
Education-scheduling/administration	0.00	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00	0.00	7.69
Engineering/Scientific	14.29	0.00	0.00	5.00	11.11	0.00	0.00	33.33	0.00	40.00	30.77
Health care/Medical	14.29	14.29	0.00	0.00	11.11	12.50	0.00	0.00	16.67	40.00	15.38
Insurance	0.00	14.29	0.00	66.67	0.00	0.00	25.00	0.00	0.00	10.00	0.00
Manufacturing	14.29	42.86	25.00	30.00	22.22	0.00	0.00	0.00	0.00	0.00	0.00
Mathematics/Statistics	0.00	0.00	0.00	5.00	33.33	0.00	0.00	16.67	16.67	30.00	7.69
Order Processing/Inventory Control	42.86	57.14	25.00	60.00	55.56	37.50	0.00	0.00	16.67	20.00	23.08
Payroll/Personnel	14.29	42.86	50.00	40.00	33.33	62.50	75.00	0.00	50.00	10.00	46.15
Petroleum/Fuel analysis	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Process control	0.00	28.57	0.00	5.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00
Purchasing	14.29	28.57	0.00	11.76	11.11	12.50	0.00	0.00	0.00	0.00	15.38
Sales Distribution	28.57	57.14	50.00	40.00	33.33	37.50	0.00	16.67	16.67	0.00	23.08
Other	57.14	57.14	25.00	30.00	0.00	0.00	50.00	50.00	33.33	70.00	30.77
Source of Applications Programs (%)											
In-house personnel	57.14	85.71	50.00	80.00	88.89	37.50	75.00	83.33	50.00	100.00	53.85
"Ready-made" programs from manufacturer	14.29	0.00	0.00	5.00	33.33	25.00	25.00	33.33	0.00	30.00	28.08
Contract Programming	28.57	28.57	25.00	50.00	33.33	50.00	0.00	16.67	16.67	10.00	15.38
Manufacturer's Personnel	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proprietary Software Packages	14.29	57.14	75.00	35.00	33.33	62.50	50.00	50.00	50.00	40.00	46.15
Location of Computer (%)											
Distributed Processing Site	14.29	42.86	25.00	20.00	33.33	37.50	0.00	33.33	16.67	10.00	0.00
Central Processing Installation	85.71	57.14	75.00	80.00	66.67	62.50	100.00	66.67	83.33	90.00	100.00
Using Local Workstations/Terminals (%)	100.00	85.71	100.00	100.00	88.89	100.00	100.00	100.00	100.00	100.00	100.00
Using Remote Workstations/Terminals (%)	85.71	100.00	100.00	100.00	100.00	87.50	100.00	100.00	100.00	100.00	100.00
Using Data Base Management System (%)											
None	0.00	14.29	0.00	10.00	66.67	25.00	25.00	16.67	16.67	40.00	23.08
Manufacturer's Package	100.00	85.71	100.00	90.00	33.33	75.00	83.33	83.33	60.00	76.92	
Outside Vendor's Package	0.00	0.00	0.00	50.00	33.33	0.00	100.00	0.00	0.00	0.00	0.00
Home-Grown System	0.00	33.33	0.00	50.00	33.33	100.00	0.00	100.00	0.00	25.00	100.00
Using Communications Monitor (%)											
None	28.57	100.00	25.00	25.00	77.78	37.50	50.00	0.00	16.67	0.00	23.08
Manufacturer's Package	71.43	0.00	75.00	65.00	22.22	62.50	50.00	100.00	83.33	100.00	76.92
Outside Vendor's Package	0.00	0.00	0.00	0.00	85.71	100.00	50.00	0.00	0.00	0.00	50.00
Home-Grown System	100.00	100.00	100.00	60.00	14.29	0.00	50.00	0.00	0.00	0.00	50.00
Using Integrated Word Processing Functions (%)	28.57	57.14	0.00	15.00	22.22	25.00	0.00	50.00	16.67	80.00	61.54
Planned Acquisitions/Implementations for 1981 (%)											
Additional Software from the Manufacturer	28.57	57.14	25.00	15.00	44.44	12.50	0.00	0.00	16.67	10.00	7.69
Proprietary Software from other suppliers	42.86	57.14	25.00	30.00	22.22	37.50	25.00	50.00	16.67	30.00	38.46
Expansions to Data Communications facilities	42.86	28.57	25.00	30.00	22.22	37.50	0.00	16.67	16.67	10.00	23.08
Distributed Processing capabilities	0.00	42.86	25.00	25.00	33.33	0.00	0.00	0.00	0.00	10.00	15.38
Expansions to present hardware	28.57	42.86	25.00	65.00	88.89	50.00	50.00	66.67	0.00	60.00	53.85
Another Computer System, same model	14.29	14.29	25.00	10.00	22.22	0.00	0.00	16.67	16.67	30.00	7.69
Integrated Word Processing capabilities	0.00	42.86	0.00	20.00	11.11	12.50	0.00	16.67	0.00	10.00	15.38
Plans for system replacement in 1981 (%)											
Yes, same manufacturer	0.00	0.00	0.00	0.00	0.00	25.00	0.00	33.33	16.67	30.00	23.08
Yes, vendor unknown	14.29	0.00	0.00	0.00	11.11	0.00	0.00	0.00	16.67	0.00	0.00
Yes, different vendor	0.00	14.29	25.00	5.00	0.00	0.00	0.00	16.67	0.00	10.00	0.00
No	85.71	85.71	75.00	95.00	88.89	75.00	100.00	50.00	50.00	50.00	76.92

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

Datapoint 1600	Datapoint 1800	Datapoint 5500	Datapoint 6600	Datapoint (other models)	DEC Datasystem 300	DEC Datasystem 500	DEC LSI-11	DEC PDP-8	DEC PDP-11/03	DEC PDP-11/23	Manufacturer and Model	
											Survey Item	
42.86	42.86	25.00	65.00	55.56	75.00	25.00	33.33	16.67	30.00	53.85	Significant Advantages (%)	
57.14	57.14	25.00	90.00	55.56	62.50	50.00	83.33	16.67	60.00	84.62		
28.57	57.14	50.00	10.00	33.33	12.50	0.00	16.67	16.67	20.00	7.69		
42.86	57.14	25.00	45.00	22.22	25.00	0.00	50.00	0.00	40.00	38.46		
14.29	28.57	0.00	20.00	0.00	37.50	25.00	16.67	16.67	30.00	46.15		
14.29	28.57	0.00	30.00	11.11	12.50	0.00	33.33	0.00	30.00	30.77		
42.86	57.14	0.00	25.00	22.22	37.50	25.00	33.33	0.00	20.00	0.00		
14.29	14.29	0.00	25.00	0.00	12.50	0.00	0.00	0.00	20.00	7.69		
28.57	28.57	0.00	10.00	11.11	25.00	0.00	16.67	16.67	20.00	0.00		
28.57	28.57	0.00	0.00	0.00	12.50	0.00	16.67	0.00	0.00	0.00		
0.00	14.29	25.00	5.00	33.33	12.50	0.00	0.00	33.33	0.00	0.00	Significant Problems (%)	
28.57	28.57	0.00	20.00	0.00	25.00	50.00	16.67	0.00	20.00	15.38		
0.00	14.29	0.00	15.00	11.11	0.00	25.00	16.67	0.00	30.00	7.69		
0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	7.69		
0.00	0.00	0.00	10.00	0.00	0.00	25.00	0.00	33.33	0.00	7.69		
0.00	0.00	0.00	0.00	0.00	12.50	25.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	25.00	11.11	0.00	0.00	0.00	16.67	10.00	7.69		
0.00	14.29	0.00	0.00	0.00	0.00	0.00	16.67	0.00	10.00	7.69		
0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	15.38		
3.57	3.43	3.50	3.80	3.44	3.50	3.00	3.00	2.80	3.56	3.77	System Ratings (4.0-0.0)	
3.71	3.29	3.75	3.65	3.22	3.63	3.25	3.33	3.67	3.70	3.62		
3.29	3.14	3.50	3.10	2.67	3.57	2.50	3.17	3.33	3.30	3.38		
3.86	3.29	3.25	3.05	3.44	3.38	2.75	3.33	2.83	2.25	3.27		
3.71	3.14	2.50	3.10	2.67	3.38	2.25	3.33	2.83	2.25	3.00		
3.14	2.57	2.50	2.65	2.22	3.13	2.50	3.20	2.33	2.38	2.40	Technical support:	
3.00	2.86	2.25	2.84	2.11	2.50	3.00	3.50	2.17	2.44	2.30		
2.67	2.71	2.00	2.60	2.11	2.88	2.50	3.00	1.83	3.00	2.82		
3.50	3.00	2.25	3.32	2.67	3.43	3.00	2.80	3.33	3.50	3.15		
3.71	3.00	2.50	3.32	2.88	3.50	2.75	2.80	3.00	3.10	3.00		
3.50	2.50	1.50	2.73	2.71	3.50	2.67	2.67	2.80	3.00	2.83	Manufacturer's software:	
3.57	3.29	2.25	3.35	2.67	3.38	3.00	2.83	3.25	3.30	3.09		
3.00	2.43	2.00	3.07	2.22	3.17	2.00	2.80	2.00	3.00	2.75		
3.57	3.14	2.50	3.15	2.67	3.38	2.75	3.00	2.60	3.20	3.42		
3.57	3.29	2.25	3.35	2.67	3.38	3.00	2.83	3.25	3.30	3.09		
85.71	71.43	50.00	95.00	66.67	100.00	50.00	100.00	100.00	90.00	92.31	Did the system do what you expected it to do? (%)	
0.00	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00	10.00	0.00		
14.29	28.57	50.00	50.00	22.22	0.00	50.00	0.00	0.00	0.00	7.69		
100.00	71.43	50.00	90.00	66.67	100.00	50.00	100.00	83.33	100.00	92.31	Would you recommend system to another user? (%)	
0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	16.67	0.00	0.00		
0.00	28.57	25.00	10.00	33.33	0.00	50.00	0.00	0.00	0.00	7.69		
100.00	71.43	50.00	90.00	66.67	100.00	50.00	100.00	92.31	92.31	92.31		

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

Survey Item	Manufacturer and Model	DEC PDP-11/34	DEC PDP-11/40	DEC PDP-11/45	DEC PDP-11/60	DEC PDP-11/70	DEC VAX	DEC (other models)	Four Phase IV 90	Four-Phase (other models)	General Automation SPC-16	General Automation 18/30
No. of User Responses		79	7	18	8	93	28	14	14	13	7	5
No. of Systems Represented		108	11	22	8	143	37	20	20	15	8	5
Avg. Life of System (Mos.)		29.3	60.6	42.7	18.5	29.3	10.9	36.4	28.3	31.2	55.0	66.2
Acquisition Method (%)												
Purchase		79.22	71.43	88.24	71.43	74.19	75.00	85.71	21.43	21.43	71.43	80.00
Rental or Lease from Mfr.		2.60	14.29	0.00	0.00	9.68	3.57	0.00	64.29	64.29	14.29	20.00
Lease from 3rd Party		18.18	14.29	11.76	28.57	16.13	21.43	14.29	14.29	14.29	14.29	0.00
Principal Applications (%)												
Accounting/Billing		55.43	71.43	55.56	37.50	58.06	32.14	64.29	71.43	84.62	57.14	60.00
Banking-check processing/loans/savings		3.80	0.00	0.00	0.00	3.23	0.00	0.00	0.00	0.00	0.00	0.00
Construction/Architecture		2.53	0.00	0.00	12.50	3.23	3.57	7.14	0.00	0.00	0.00	40.00
Education-scheduling/administration		8.86	0.00	33.33	12.50	13.98	7.14	14.29	0.00	0.00	28.57	40.00
Engineering/Scientific		15.19	28.57	33.33	12.50	23.66	46.43	35.71	14.29	0.00	28.57	40.00
Health care/Medical		10.13	0.00	5.56	37.50	9.68	0.00	7.14	28.57	46.15	0.00	0.00
Insurance		3.80	0.00	5.56	0.00	5.38	0.00	7.14	14.29	7.69	0.00	0.00
Manufacturing		12.66	0.00	16.67	0.00	9.68	17.86	14.29	28.57	15.38	42.86	0.00
Mathematics/Statistics		10.13	14.29	33.33	0.00	23.66	28.57	14.29	7.14	0.00	28.57	0.00
Order Processing/Inventory Control		35.44	42.86	22.22	25.00	36.56	10.71	21.43	57.14	38.46	42.86	0.00
Payroll/Personnel		27.85	42.86	27.78	37.50	36.56	17.86	50.00	42.86	69.23	28.57	60.00
Petroleum/Fuel analysis		0.00	0.00	0.00	0.00	4.30	3.57	0.00	0.00	0.00	0.00	0.00
Process control		7.59	0.00	0.00	0.00	4.30	7.14	0.00	0.00	0.00	0.00	0.00
Purchasing		17.72	14.29	22.22	12.50	18.28	3.57	21.43	35.71	30.77	28.57	0.00
Sales Distribution		26.58	42.86	16.67	25.00	18.28	7.14	7.14	35.71	7.69	28.57	0.00
Other		26.58	14.29	16.67	37.50	30.11	50.00	28.57	21.43	23.08	14.29	20.00
Source of Applications Programs (%)												
In-house personnel		77.22	85.71	94.44	87.50	82.80	82.14	71.43	85.71	53.85	85.71	80.00
"Ready-made" programs from manufacturer		13.92	28.57	27.78	12.50	31.18	35.71	35.71	21.43	23.08	42.86	20.00
Contract Programming		26.58	42.86	22.22	12.50	35.48	21.43	28.57	28.57	30.77	42.86	0.00
Manufacturer's Personnel		1.27	0.00	0.00	0.00	5.38	0.00	7.14	0.00	0.00	14.29	0.00
Proprietary Software Packages		39.24	0.00	33.33	25.00	49.46	71.43	42.86	28.57	46.15	28.57	40.00
Location of Computer (%)												
Distributed Processing Site		10.39	0.00	27.78	12.50	8.60	0.00	14.29	57.14	61.54	0.00	0.00
Central Processing Installation		89.61	100.00	72.22	87.50	91.40	100.00	85.71	42.86	38.46	100.00	100.00
Using Local Workstations/Terminals (%)		98.73	100.00	100.00	100.00	98.92	100.00	100.00	100.00	100.00	100.00	60.00
Using Remote Workstations/Terminals (%)		97.47	85.71	100.00	100.00	96.77	89.29	100.00	100.00	100.00	28.57	40.00
Using Data Base Management System (%)												
None		37.71	28.57	38.89	62.50	45.16	42.86	42.86	7.14	30.77	28.57	40.00
Manufacturer's Package		62.29	71.43	61.11	37.50	54.84	57.14	57.14	92.86	69.23	71.43	60.00
Outside Vendor's Package		37.04	50.00	28.57	20.00	40.48	8.33	0.00	100.00	66.67	50.00	0.00
Home-Grown System		29.63	0.00	28.57	60.00	35.71	58.33	100.00	0.00	33.33	0.00	100.00
Using Communications Monitor (%)												
None		33.33	50.00	42.86	20.00	23.81	33.33	0.00	0.00	0.00	50.00	0.00
Manufacturer's Package		84.81	42.86	72.22	75.00	64.52	71.43	64.29	50.00	69.23	100.00	80.00
Outside Vendor's Package		54.55	66.67	60.00	0.00	64.00	75.00	25.00	100.00	50.00	0.00	0.00
Home-Grown System		18.18	33.33	40.00	50.00	16.00	12.50	50.00	0.00	50.00	0.00	0.00
Using Integrated Word Processing Functions (%)												
None		27.27	0.00	0.00	50.00	10.00	12.50	25.00	0.00	0.00	0.00	0.00
Manufacturer's Package		30.38	28.57	44.44	12.50	26.88	46.23	50.00	64.29	7.69	28.57	20.00
Outside Vendor's Package		11.39	0.00	0.00	12.50	11.83	21.43	14.29	7.14	0.00	14.29	0.00
Home-Grown System		7.59	14.29	22.22	25.00	12.90	14.29	7.14	7.14	30.77	0.00	20.00
Planned Acquisitions/Implementations for 1981 (%)												
Additional Software from the Manufacturer		12.66	0.00	16.67	0.00	16.13	46.43	14.29	42.86	46.15	0.00	0.00
Proprietary Software from other suppliers		30.38	28.57	55.56	12.50	40.86	42.86	35.71	7.14	7.69	0.00	0.00
Expansions to Data Communications facilities		20.25	14.29	27.78	12.50	35.48	42.86	7.14	28.57	23.08	28.57	0.00
Distributed Processing capabilities		7.59	14.29	11.11	25.00	8.60	21.43	0.00	21.43	23.08	14.29	0.00
Expansions to present hardware		44.30	28.57	61.11	37.50	48.39	75.00	35.71	42.86	61.54	28.57	0.00
Another Computer System, same model		11.39	0.00	0.00	12.50	11.83	21.43	14.29	7.14	0.00	14.29	0.00
Integrated Word Processing capabilities		7.59	14.29	22.22	25.00	12.90	14.29	7.14	7.14	30.77	0.00	20.00
Plans for system replacement in 1981 (%)												
Yes, same manufacturer		13.92	14.29	16.67	0.00	4.30	0.00	35.71	0.00	23.08	0.00	0.00
Yes, vendor unknown		1.27	0.00	0.00	0.00	0.00	0.00	7.14	7.14	7.69	14.29	40.00
Yes, different vendor		2.53	0.00	0.00	0.00	5.38	0.00	7.14	0.00	0.00	28.57	20.00
No		82.28	85.71	83.33	100.00	90.32	100.00	42.86	85.71	69.23	57.14	40.00

## User Ratings of Computers Systems

Table 2. Minicomputers &amp; Small Business Computers

DEC PDP-11/34	DEC PDP-11/40	DEC PDP-11/45	DEC PDP-11/60	DEC PDP-11/70	DEC VAX	DEC (other models)	Four Phase IV 90	Four-Phase (other models)	General Automation SPC-16	General Automation 18/30	Manufacturer and Model	
											Survey Item	
62.03	57.14	66.67	50.00	72.04	82.14	64.29	57.14	61.54	14.29	40.00	Significant Advantages (%)	
56.96	57.14	100.00	62.50	64.52	67.86	50.00	50.00	69.23	14.29	0.00	Users are happy with response time	
11.39	0.00	11.11	12.50	16.13	14.29	14.29	28.57	23.08	0.00	0.00	System is easy to expand/reconfigure	
10.13	14.29	44.44	37.50	25.81	60.71	7.14	21.43	23.08	28.57	60.00	System costs were less than expected	
13.92	0.00	50.00	25.00	29.03	57.14	7.14	14.29	23.08	14.29	20.00	Programs/data carried over from other systems are compatible, as vendor promised	
12.66	0.00	11.11	25.00	18.28	17.86	14.29	14.29	23.08	14.29	20.00	Terminals/peripherals carried over from other systems are compatible, as vendor promised	
18.99	0.00	22.22	37.50	33.33	50.00	35.71	21.43	30.77	0.00	20.00	System is power/energy efficient	
13.92	14.29	22.22	50.00	18.28	10.71	21.43	14.29	7.69	0.00	20.00	Productivity aids help us keep programming costs down	
6.33	0.00	5.56	12.50	9.68	25.00	7.14	14.29	0.00	0.00	0.00	Data base language is efficient and effective	
3.80	0.00	0.00	0.00	33.33	14.29	7.14	14.29	7.69	0.00	0.00	Delivery and/or installation of equipment was ahead of schedule	
3.80	0.00	0.00	0.00	33.33	14.29	7.14	14.29	7.69	0.00	0.00	Delivery of required software was ahead of schedule	
12.66	0.00	0.00	25.00	11.83	3.57	0.00	0.00	7.69	14.29	0.00	Significant Problems (%)	
17.72	42.86	27.78	25.00	15.05	32.14	7.14	7.14	7.69	0.00	0.00	Computer proposed by vendor was too small	
18.99	14.29	0.00	0.00	13.98	17.86	14.29	21.43	0.00	14.29	20.00	Installation of equipment was late	
11.39	0.00	5.56	12.50	11.83	3.57	7.14	7.14	7.69	42.86	20.00	Delivery of required software was late	
16.46	14.29	5.56	25.00	17.20	3.57	7.14	35.71	23.08	71.43	40.00	System costs (for hardware, vendor-supplied software, support) exceeded the expected total	
2.53	0.00	0.00	0.00	3.23	0.00	0.00	7.14	7.69	14.29	0.00	Vendor did not provide all the promised software or support	
3.80	0.00	0.00	0.00	0.00	7.14	0.00	0.00	0.00	14.29	0.00	Program/data compatibility not what vendor promised	
17.72	0.00	5.56	0.00	9.68	10.71	14.29	14.29	0.00	42.86	0.00	Terminals/peripherals compatibility not what vendor promised	
11.39	0.00	0.00	0.00	7.53	10.71	7.14	7.14	7.69	14.29	20.00	Vendor enhancements/changes to hardware/software hard to keep up with	
7.59	0.00	0.00	0.00	7.53	17.86	0.00	0.00	7.69	0.00	20.00	Equipment is excessively noisy	
3.42	3.29	3.83	3.63	3.44	3.71	3.43	3.36	3.62	2.57	2.80	Power and/or cooling requirements are excessive	
3.54	3.43	3.67	3.25	3.49	3.64	3.57	3.46	3.38	3.57	3.20	System Ratings (4.0-0.0)	
3.27	3.29	3.11	3.13	3.13	3.07	3.57	3.23	3.23	2.57	2.60	Ease of operation	
3.24	3.29	3.00	3.43	3.14	3.04	2.93	3.14	3.31	2.43	2.20	Reliability of Mainframe	
3.10	2.86	2.78	3.14	2.96	2.93	3.00	3.08	3.08	3.00	2.75	Reliability of Peripherals	
3.24	3.29	3.00	3.43	3.14	3.04	2.93	3.14	3.31	2.43	2.20	Maintenance service:	
3.10	2.86	2.78	3.14	2.96	2.93	3.00	3.08	3.08	3.00	2.75	Responsiveness	
3.24	3.29	3.00	3.43	3.14	3.04	2.93	3.14	3.31	2.43	2.20	Effectiveness	
2.80	2.86	2.35	3.00	2.64	2.78	2.85	2.38	2.92	2.00	2.00	Technical support:	
2.64	2.43	2.65	3.00	2.54	2.85	2.67	2.54	2.83	1.83	1.75	Trouble-shooting	
2.67	2.50	3.00	2.57	2.67	3.04	2.62	2.54	2.62	2.00	2.00	Education	
3.40	3.43	3.76	3.40	3.33	3.50	3.38	2.77	3.30	1.86	2.60	Documentation	
3.13	3.20	3.53	3.00	3.08	3.50	3.08	2.77	3.33	2.14	2.80	Manufacturer's software:	
2.77	3.00	3.22	3.25	2.58	3.10	3.00	2.75	3.27	1.67	2.50	Operating system	
3.23	3.43	3.67	3.63	3.18	3.57	3.23	2.77	3.44	2.17	2.80	Compilers & Assemblers	
2.75	2.83	3.38	3.25	2.82	3.38	3.10	2.75	3.40	2.00	2.75	Applications Programs	
3.21	3.14	3.39	3.50	3.13	3.54	3.31	3.07	3.23	1.86	2.60	Ease of Programming	
3.23	3.43	3.67	3.63	3.18	3.57	3.23	2.77	3.44	2.17	2.80	Ease of conversion	
2.75	2.83	3.38	3.25	2.82	3.38	3.10	2.75	3.40	2.00	2.75	Overall satisfaction	
91.14	85.71	88.89	75.00	95.70	92.86	85.71	85.71	84.62	57.14	80.00	Did the system do what you expected it to do? (%)	
2.53	0.00	0.00	0.00	3.23	0.00	0.00	7.14	0.00	14.29	0.00	Yes	
5.06	14.29	5.56	25.00	1.08	7.14	14.29	7.14	15.38	28.57	20.00	No	
91.14	85.71	88.89	75.00	95.70	92.86	85.71	85.71	84.62	57.14	80.00	Haven't decided	
83.54	85.71	83.33	75.00	88.17	89.29	78.57	78.57	84.62	14.29	20.00	Would you recommend system to another user? (%)	
3.80	0.00	5.56	25.00	7.53	3.57	7.14	7.14	0.00	71.43	80.00	Yes	
11.39	14.29	5.56	0.00	3.23	7.14	14.29	14.29	15.38	14.29	0.00	No	
11.39	14.29	5.56	0.00	3.23	7.14	14.29	14.29	15.38	14.29	0.00	Haven't decided	

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

Survey Item	Manufacturer and Model		Harris 100/200	Harris (other models)	Hewlett-Packard 250	Hewlett-Packard 1000	Hewlett-Packard 3000	Hewlett-Packard 3000 II	Hewlett-Packard 3000 III	Hewlett-Packard 3000 30	Hewlett-Packard 3000 33	Hewlett-Packard (other models)	Honeywell Level 6
No. of User Responses	9	4	7	16	36	14	67	13	12	8	25		
No. of Systems Represented	9	4	7	26	43	17	83	18	12	11	40		
Avg. Life of System (Mos.)	39.4	51.0	10.3	21.2	24.6	40.4	22.6	8.6	12.0	15.0	17.3		
Acquisition Method (%)													
Purchase	77.78	25.00	71.43	100.00	75.00	78.57	77.61	61.54	33.33	100.00	79.17		
Rental or Lease from Mfr.	0.00	75.00	14.29	0.00	2.78	21.43	7.46	15.38	16.67	0.00	0.00		
Lease from 3rd Party	22.22	0.00	14.29	0.00	22.22	0.00	14.93	23.08	50.00	0.00	20.83		
Principal Applications (%)													
Accounting/Billing	77.78	50.00	71.43	37.50	77.78	64.29	80.60	69.23	75.00	37.50	56.00		
Banking/Check processing/loans/savings	25.00	0.00	0.00	0.00	5.56	0.00	5.97	0.00	8.33	0.00	4.00		
Construction/Architecture	0.00	0.00	28.57	6.25	5.56	7.14	4.48	7.69	0.00	12.50	4.00		
Education-Scheduling/Administration	66.67	25.00	0.00	0.00	16.67	28.57	5.97	0.00	8.33	37.50	4.00		
Engineering/Scientific	11.11	25.00	14.29	43.75	11.11	7.14	13.43	7.69	0.00	25.00	4.00		
Health Care/Medical	22.22	0.00	0.00	0.00	13.89	21.43	10.45	0.00	8.33	25.00	4.00		
Insurance	11.11	25.00	0.00	0.00	2.78	14.29	11.94	0.00	8.33	12.50	44.00		
Manufacturing	11.11	0.00	42.86	6.25	41.67	14.29	26.87	30.77	25.00	0.00	0.00		
Mathematics/Statistics	0.00	25.00	0.00	12.50	11.11	7.14	10.45	7.69	8.33	37.50	20.00		
Order Processing/Inventory Control	55.56	25.00	57.14	18.75	55.56	28.57	49.25	46.15	50.00	25.00	0.00		
Payroll/Personnel	11.11	50.00	57.14	43.75	47.22	35.71	61.19	46.15	33.33	12.50	40.00		
Petroleum/Fuel analysis	88.89	75.00	0.00	0.00	0.00	0.00	5.97	7.69	0.00	0.00	36.00		
Process control	11.11	0.00	0.00	6.25	2.78	0.00	2.99	0.00	0.00	0.00	0.00		
Purchasing	11.11	0.00	28.57	6.25	33.33	28.57	11.56	30.77	41.67	12.50	4.00		
Sales Distribution	0.00	25.00	57.14	0.00	33.33	28.57	25.37	30.77	8.33	12.50	12.00		
Other	0.00	25.00	14.29	25.00	22.22	28.57	19.40	30.77	25.00	0.00	28.00		
Source of Applications Programs (%)													
In-house personnel	77.78	100.00	57.14	81.25	75.00	85.71	91.04	84.62	66.67	100.00	76.00		
"Ready-made" programs from manufacturer	0.00	0.00	57.14	6.25	22.22	21.43	26.87	23.08	16.67	37.50	4.00		
Contract Programming	22.22	0.00	28.57	50.00	27.78	50.00	40.30	30.77	41.67	25.00	48.00		
Manufacturer's Personnel	0.00	0.00	0.00	0.00	5.56	0.00	1.49	7.69	0.00	0.00	4.00		
Proprietary Software Packages	44.44	25.00	42.86	25.00	52.78	21.43	47.76	69.23	41.67	0.00	16.00		
Location of Computer (%)													
Distributed Processing Site	11.11	75.00	0.00	6.25	2.78	0.00	13.43	30.77	0.00	12.50	24.00		
Central Processing Installation	88.89	25.00	100.00	93.75	97.22	100.00	86.57	69.23	100.00	87.50	76.00		
Using Local Workstations/Terminals (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Using Remote Workstations/Terminals (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	84.62	100.00	100.00	100.00	96.00	
Using Data Base Management System (%)													
None	55.56	50.00	100.00	81.25	83.33	85.71	92.54	84.62	75.00	50.00	36.00		
Manufacturer's Package	44.44	50.00	0.00	18.75	16.67	14.29	7.46	15.38	25.00	50.00	64.00		
Outside Vendor's Package	0.00	50.00	100.00	100.00	90.00	91.67	100.00	100.00	100.00	100.00	100.00	57.14	
Home-Grown System	100.00	50.00	0.00	0.00	3.33	0.00	0.00	0.00	0.00	0.00	0.00	14.29	
Using Communications Monitor (%)													
None	77.78	75.00	0.00	18.75	33.33	35.71	49.25	23.08	33.33	25.00	48.00		
Manufacturer's Package	22.22	25.00	100.00	81.25	66.67	64.29	50.75	76.92	66.67	75.00	52.00		
Outside Vendor's Package	100.00	100.00	0.00	100.00	81.82	50.00	90.32	100.00	100.00	50.00	55.56		
Home-Grown System	0.00	0.00	0.00	0.00	18.18	50.00	6.45	0.00	0.00	0.00	0.00	33.33	
Using Integrated Word Processing Functions (%)													
Planned Acquisitions/Implementations for 1981 (%)	22.22	25.00	71.43	12.50	27.78	14.29	26.87	30.77	33.33	62.50	32.00		
Additional Software from the Manufacturer	44.44	25.00	71.43	31.25	25.00	28.57	37.31	15.38	41.67	25.00	12.00		
Proprietary Software from other suppliers	44.44	0.00	57.14	25.00	52.78	28.57	38.81	38.46	50.00	12.50	24.00		
Expansions to Data Communications facilities	44.44	0.00	57.14	12.50	38.89	28.57	41.79	30.77	58.33	12.50	28.00		
Distributed Processing capabilities	11.11	0.00	14.29	0.00	16.67	0.00	10.45	0.00	33.33	12.50	8.00		
Expansions to present hardware	44.44	50.00	42.86	43.75	58.33	50.00	64.18	46.15	58.33	62.50	48.00		
Another Computer System, same model	33.33	0.00	0.00	12.50	11.11	0.00	8.96	7.69	8.33	12.50	16.00		
Integrated Word Processing capabilities	11.11	0.00	14.29	12.50	8.33	0.00	20.90	7.69	16.67	0.00	12.00		
Plans for system replacement in 1981 (%)													
Yes, same manufacturer	22.22	25.00	0.00	12.50	5.56	14.29	11.94	7.69	8.33	0.00	4.00		
Yes, vendor unknown	0.00	0.00	0.00	0.00	2.78	7.14	0.00	0.00	0.00	0.00	4.00		
Yes, different vendor	22.22	25.00	0.00	6.25	0.00	7.14	0.00	0.00	0.00	0.00	4.00		
No	55.56	50.00	100.00	81.25	91.67	71.43	88.06	92.31	91.67	100.00	80.00		

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

Harris 100/200	Harris (other models)	Hewlett-Packard 250	Hewlett-Packard 1000	Hewlett-Packard 3000	Hewlett-Packard 3000 II	Hewlett-Packard 3000 III	Hewlett-Packard 3000 30	Hewlett-Packard 3000 33	Hewlett-Packard (other models)	Honeywell Level 6	Manufacturer and Model	
											Survey Item	
22.22	25.00	85.71	56.25	63.89	50.00	67.16	46.15	50.00	75.00	52.00	Significant Advantages (%)	
33.33	75.00	85.71	50.00	77.78	71.43	89.55	100	100	62.50	72.00		
11.11	25.00	0.00	12.50	16.67	0.00	25.37	7.69	16.67	12.50	16.00		
11.11	0.00	14.29	6.25	33.33	35.71	35.82	38.46	33.33	12.50	28.00		
0.00	0.00	0.00	0.00	13.89	7.14	17.91	7.69	0.00	12.50	20.00		
0.00	0.00	85.71	6.25	16.67	28.57	35.82	61.54	25.00	25.00	8.00		
22.22	0.00	100.00	6.25	44.44	7.14	56.72	61.54	58.33	50.00	16.00		
11.11	0.00	100.00	31.25	55.56	64.29	80.60	76.92	58.33	37.50	16.00		
11.11	0.00	28.57	0.00	13.89	14.29	35.82	15.38	8.33	12.50	12.00		
0.00	0.00	57.14	0.00	5.56	7.14	16.42	7.69	8.33	0.00	8.00		
Significant Problems (%)												
33.33	0.00	14.29	18.75	8.33	14.29	2.99	0.00	8.33	12.50	20.00	Computer proposed by vendor was too small Installation of equipment was late Delivery of required software was late System costs (for hardware, vendor-supplied software, support) exceeded the expected total Vendor did not provide all the promised software or support Program/data compatibility not what vendor promised Terminals/peripherals compatibility not what vendor promised Vendor enhancements/changes to hardware/software hard to keep up with Equipment is excessively noisy Power and/or cooling requirements are excessive	
22.22	75.00	28.57	18.75	2.78	7.14	2.99	15.38	8.33	25.00	20.00		
11.11	0.00	0.00	12.50	5.56	7.14	2.99	7.69	16.67	0.00	32.00		
22.22	0.00	0.00	18.75	11.11	0.00	5.97	0.00	0.00	0.00	16.00		
11.11	25.00	0.00	18.75	8.33	0.00	4.48	0.00	0.00	0.00	24.00		
11.11	0.00	0.00	6.25	2.78	0.00	2.99	0.00	8.33	0.00	0.00		
0.00	0.00	0.00	6.25	0.00	7.14	1.49	7.69	0.00	12.50	4.00		
22.22	0.00	0.00	37.50	8.33	0.00	4.48	0.00	0.00	0.00	12.00		
11.11	0.00	0.00	12.50	2.78	0.00	0.00	0.00	0.00	0.00	4.00		
11.11	0.00	0.00	6.25	2.78	0.00	0.00	0.00	0.00	0.00	4.00		
System Ratings (4.0-0.0)												
3.11	3.00	3.86	3.13	3.51	3.57	3.82	3.62	3.92	3.80	3.12	Ease of operation Reliability of Mainframe Reliability of Peripherals Maintenance service:	
3.00	3.25	4.00	3.56	3.80	3.93	3.87	3.77	3.91	3.80	3.32		
2.44	2.25	3.29	3.50	3.49	3.29	3.60	3.46	3.58	3.25	2.96		
2.67	2.50	3.67	3.19	3.31	3.36	3.40	3.54	3.50	3.20	2.84		
2.44	3.00	3.67	3.27	3.35	3.21	3.42	3.54	3.33	3.50	2.84	Responsiveness Effectiveness	
2.11	2.25	3.40	2.79	2.83	2.86	3.06	3.33	2.75	3.00	2.64		
1.78	2.75	3.60	2.73	2.81	3.23	3.18	3.25	3.08	2.60	2.35		
2.00	2.67	3.67	2.50	2.86	3.08	3.13	3.17	3.33	3.00	2.30		
Technical support:												
2.89	3.75	3.86	3.06	3.53	3.43	3.79	3.62	3.50	3.40	2.88	Operating system Compilers & Assemblers Applications Programs	
2.67	3.00	4.00	3.13	3.29	3.31	3.55	3.31	2.92	3.00	3.04		
2.67	3.00	3.40	2.71	2.92	2.75	3.24	3.20	2.71	2.60	2.61		
3.00	3.00	3.86	2.69	3.40	3.17	3.65	3.46	3.17	3.60	3.00	Ease of Programming Ease of conversion Overall satisfaction	
2.56	4.00	3.57	2.77	3.20	2.91	3.34	3.18	3.00	2.75	2.79		
2.78	2.75	3.86	3.06	3.40	3.36	3.75	3.62	3.50	3.60	2.88		
Did the system do what you expected it to do? (%)												
77.78	100.00	85.71	81.25	77.78	92.86	97.01	84.62	100	87.50	64.00	Yes No Haven't decided	
22.22	0.00	0.00	6.25	0.00	0.00	0.00	0.00	0.00	0.00	8.00		
0.00	0.00	14.29	12.50	16.67	7.14	2.09	15.38	0.00	12.50	24.00		
66.67	75.00	100.00	81.25	80.56	92.86	100.00	92.30	100.00	75.00	68.00	Would you recommend system to another user? (%) Yes No Haven't decided	
22.22	0.00	0.00	6.25	0.00	0.00	0.00	0.00	0.00	25.00	20.00		
11.11	25.00	0.00	12.50	16.67	7.14	0.00	7.23	0.00	0.00	12.00		

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

Manufacturer and Model	Honeywell 100/200	IBM Series/1	IBM System/3	IBM System/32	IBM System/34	IBM System/38	IBM 1130	IBM 8100	IBM (other models)	Minicomputer Systems MICOS	Micodata Reality
<b>Survey Item</b>											
No. of User Responses	4	27	250	27	456	26	7	17	11	5	47
No. of Systems Represented	4	59	263	27	495	26	8	29	11	5	56
Avg. Life of System (Mos.)	131.0	16.6	50.7	39.3	18.5	4.2	135.8	7.6	39.0	21.8	24.4
Acquisition Method (%)											
Purchase	75.00	87.80	59.04	73.08	38.77	50.00	57.14	5.88	36.36	100	74.47
Rental or Lease from Mfr.	0.00	2.44	29.72	23.08	56.83	46.15	42.86	94.12	54.55	0	0
Lease from 3rd Party	25.00	9.76	11.24	3.85	4.41	3.85	0.00	0.00	9.09	0	25.53
Principal Applications (%)											
Accounting/Billing	50.00	48.78	87.60	77.78	88.00	88.46	28.57	41.18	72.73	100	93.62
Banking-check processing/loans/savings	0.00	7.32	2.75	0.00	3.73	0.00	0.00	0.00	0.00	0	2.13
Construction/Architecture	0.00	7.32	2.00	4.81	4.67	11.54	0.00	11.76	9.09	0	2.13
Education-scheduling/administration	0.00	2.44	4.80	0.00	4.17	3.85	42.86	11.76	9.09	0	2.13
Engineering/Scientific	0.00	2.44	3.20	0.00	3.07	0.00	0.00	17.65	18.18	0	2.13
Health care/Medical	50.00	12.20	7.60	11.11	3.73	7.69	0.00	5.88	9.09	0	6.38
Insurance	25.00	4.88	4.80	11.11	4.61	3.85	0.00	11.76	0.00	20.00	4.26
Manufacturing	0.00	19.51	38.80	3.70	32.89	23.08	14.29	58.82	54.55	0	6.38
Mathematics/Statistics	25.00	12.20	6.40	0.00	3.73	7.69	28.57	5.88	9.90	0	6.38
Order Processing/Inventory Control	25.00	43.90	60.40	33.33	60.75	61.54	14.29	52.94	81.82	60.00	57.45
Payroll/Personnel	50.00	36.59	74.80	62.96	65.13	61.54	57.14	47.06	72.73	40.00	61.70
Petroleum/Fuel analysis	50.00	2.44	2.00	0.00	1.75	7.69	0.00	0.00	0.00	0	0
Process control	0.00	4.88	4.00	0.00	3.51	0.00	0.00	5.88	9.09	0	4.26
Purchasing	0.00	12.20	34.80	11.11	30.70	23.08	0.00	23.53	45.45	0	46.81
Sales Distribution	25.00	29.27	51.60	37.04	42.11	34.62	28.57	29.41	27.27	20.00	44.68
Other	25.00	24.39	18.80	25.93	19.52	15.38	14.29	17.65	18.18	20.00	36.17
Source of Applications Programs (%)											
In-house personnel	100.00	82.93	94.80	55.56	83.11	96.15	100.00	94.12	90.91	60.00	70.21
"Ready-made" programs from manufacturer	50.00	19.51	27.60	33.33	38.16	23.08	28.57	23.53	27.27	20.00	6.38
Contract Programming	50.00	26.83	28.00	59.26	37.06	19.23	28.57	23.53	36.36	0	51.06
Manufacturer's Personnel	0.00	0.00	4.80	0.00	3.29	0.00	0.00	5.88	0.00	0	2.13
Proprietary Software Packages	25.00	19.51	20.80	11.11	19.96	3.85	42.86	17.65	36.36	40.00	42.55
Location of Computer (%)											
Distributed Processing Site	0.00	7.32	4.03	14.81	6.80	7.69	0.00	82.35	20.00	0	6.38
Central Processing Installation	100.00	92.68	95.97	85.19	92.82	92.31	100.00	17.65	80.00	100	93.62
Using Local Workstations/Terminals (%)	86.21	100.00	68.00	62.96	99.13	100.00	14.29	100.00	100.00	100.00	100.00
Using Remote Workstations/Terminals (%)	100.00	41.46	27.60	11.11	97.14	46.15	0.00	41.17	45.45	40.00	100.00
Using Data Base Management System (%)	0.00	34.15	9.60	7.41	10.96	88.46	0.00	58.82	54.55	60.00	89.36
None	100.00	65.85	90.00	81.48	87.28	11.54	100.00	41.18	45.45	40.00	10.64
Manufacturer's Package	0.00	7.14	34.78	50.00	60.41	100.00	0.00	100.00	66.67	33.33	87.50
Outside Vendor's Package	0.00	35.71	8.70	0.00	6.25	0.00	0.00	0.00	16.67	66.67	7.50
Home-Grown System	0.00	57.14	56.52	50.00	33.33	0.00	0.00	0.00	16.67	0.00	5.00
Using Communications Monitor (%)	0.00	46.34	29.20	0.00	20.61	38.46	0.00	47.06	36.36	20.00	31.91
None	100.00	53.66	69.20	88.89	76.10	57.69	100.00	52.94	54.55	80.00	68.09
Manufacturer's Package	0.00	72.22	93.15	0.00	76.14	100.00	0.00	87.50	75.00	100.00	81.82
Outside Vendor's Package	0.00	11.11	0.00	0.00	15.19	0.00	0.00	0.00	25.00	0.00	0.00
Home-Grown System	0.00	16.67	6.85	0.00	7.95	0.00	0.00	12.50	0.00	0.00	18.18
Using Integrated Word Processing Functions (%)	0.00	17.07	4.00	4.00	18.96	3.85	0.00	0.00	0.00	0.00	55.32
Planned Acquisitions/Implementations for 1981 (%)											
Additional Software from the Manufacturer	0.00	36.59	12.40	0.00	21.27	42.31	0.00	47.06	18.18	20.00	6.38
Proprietary Software from other suppliers	25.00	21.95	16.40	11.11	25.88	15.38	28.57	23.57	18.18	0.00	29.79
Expansions to Data Communications facilities	0.00	43.90	29.60	7.41	32.46	53.85	14.29	17.65	18.18	20.00	29.79
Distributed Processing capabilities	0.00	9.76	13.20	7.41	13.16	34.62	0.00	41.18	9.09	0.00	14.89
Expansions to present hardware	0.00	95.12	23.20	18.51	49.12	46.15	14.29	64.71	0.00	40.00	34.04
Another Computer System, same model	0.00	21.95	5.60	3.70	4.17	11.54	0.00	17.65	0.00	20.00	8.51
Integrated Word Processing capabilities	0.00	24.39	5.20	7.41	16.45	19.23	0.00	29.41	0.00	20.00	10.64
Plans for system replacement in 1981 (%)											
Yes, same manufacturer	0.00	2.44	31.20	22.22	7.46	0.00	0.00	0.00	36.36	0.00	2.13
Yes, vendor unknown	0.00	2.44	5.60	7.41	1.32	0.00	14.29	5.88	0.00	0.00	8.51
Yes, different vendor	25.00	2.44	4.80	11.11	0.44	0.00	42.86	0.00	18.18	20.00	8.51
No	75.00	92.68	58.00	59.26	89.99	96.15	42.86	94.12	45.45	80.00	80.85

## User Ratings of Computers Systems

Table 2. Minicomputers &amp; Small Business Computers

Honeywell 100/200	IBM Series/1	IBM System/3	IBM System/32	IBM System/34	IBM System/38	IBM 1130	IBM 8100	IBM (other models)	Minicomputer Systems MICOS	Microdata Reality	Manufacturer and Model	
											Survey Item	
25.00	43.90	44.00	11.11	66.89	53.85	28.57	23.53	36.36	60.00	55.32	Significant Advantages (%)	
0.00	60.98	31.60	18.52	83.77	88.46	0.00	52.94	36.36	80.00	68.09		
25.00	19.51	16.00	14.81	14.47	19.23	14.29	11.76	9.09	0.00	12.77		
0.00	7.32	31.60	18.52	45.18	57.69	14.29	23.53	36.36	0.00	19.15		
0.00	12.20	12.00	3.70	7.86	23.08	0.00	17.65	27.27	20.00	19.15		
0.00	29.27	9.20	7.41	23.90	57.69	0.00	17.85	18.18	60.00	23.40		
0.00	19.51	23.60	25.93	57.68	80.77	14.29	41.18	27.27	40.00	44.68		
0.00	12.20	5.20	3.70	4.60	69.23	0.00	17.65	27.27	60.00	89.36		
25.00	2.44	7.20	14.81	19.08	26.92	0.00	5.88	9.09	40.00	10.64		
25.00	2.44	4.00	3.70	10.09	7.69	0.00	11.76	0.00	40.00	6.38		
0.00	21.95	8.00	18.52	7.68	3.85	0.00	23.53	9.09	40.00	12.77	Significant Problems (%)	
0.00	24.39	2.80	0.00	3.07	11.54	0.00	23.53	9.09	0.00	10.64		
0.00	26.83	1.60	11.11	3.95	11.54	0.00	17.65	0.00	0.00	21.28		
0.00	14.63	4.40	3.70	8.11	7.69	0.00	11.76	9.09	40.00	8.51		
0.00	19.51	5.20	3.70	7.46	23.08	0.00	23.53	9.09	0.00	14.89		
0.00	12.20	1.60	0.00	1.75	11.54	0.00	17.65	9.09	0.00	2.13		
0.00	7.32	2.40	0.00	0.22	0.00	0.00	0.00	0.00	0.00	2.13		
0.00	26.83	4.00	3.70	9.21	7.69	0.00	11.76	18.18	0.00	2.13		
50.00	2.44	13.60	3.70	2.85	0.00	14.29	5.88	9.09	0.00	4.26		
0.00	0.00	8.40	0.00	1.10	0.00	14.29	5.88	9.09	20.00	8.51		
2.75	3.02	3.24	3.30	3.65	3.56	3.33	2.82	3.20	3.80	3.81	System Ratings (4.0-0.0)	
3.25	3.61	3.66	3.44	3.76	3.75	3.71	2.88	3.36	3.80	3.37		
3.25	3.51	3.26	3.37	3.64	3.52	3.33	3.00	3.18	3.40	3.07		
2.75	3.29	3.24	3.48	3.46	3.54	3.57	3.13	3.18	3.40	3.30		
2.75	3.22	3.20	3.44	3.41	3.52	2.86	2.81	3.09	3.20	3.06		
2.50	2.51	2.86	3.19	2.98	2.96	2.67	2.50	3.11	3.20	2.85		
2.50	2.38	2.84	2.92	3.01	2.73	2.50	2.56	2.67	3.00	2.49		
2.50	2.50	2.79	3.08	3.08	2.77	2.83	2.50	2.89	2.60	2.57		
2.50	2.74	3.22	3.29	3.49	3.36	3.00	2.94	3.27	3.50	3.82		
2.50	2.76	3.28	3.17	3.48	3.52	3.14	2.73	2.82	—	3.59		
2.33	2.66	2.79	3.05	2.89	3.33	3.33	2.38	2.29	3.00	3.10		
2.75	2.69	3.17	3.17	3.44	3.65	3.00	2.75	2.67	3.50	3.70	Manufacturer's software:	
1.67	2.38	2.92	3.16	3.23	2.46	1.50	2.60	2.44	3.00	3.44		
2.75	2.95	3.19	3.16	3.51	3.38	3.14	2.81	2.73	3.40	3.49		
2.75	2.69	3.17	3.17	3.44	3.65	3.00	2.75	2.67	3.50	3.70		
1.67	2.38	2.92	3.16	3.23	2.46	1.50	2.60	2.44	3.00	3.44		
2.75	2.95	3.19	3.16	3.51	3.38	3.14	2.81	2.73	3.40	3.49		
2.75	2.69	3.17	3.17	3.44	3.65	3.00	2.75	2.67	3.50	3.70		
1.67	2.38	2.92	3.16	3.23	2.46	1.50	2.60	2.44	3.00	3.44		
2.75	2.95	3.19	3.16	3.51	3.38	3.14	2.81	2.73	3.40	3.49		
2.75	2.69	3.17	3.17	3.44	3.65	3.00	2.75	2.67	3.50	3.70		
100.00	73.17	92.00	74.07	94.08	80.77	100.00	58.82	72.73	100.00	95.74	Did the system do what you expected it to do? (%)	
0.00	12.20	3.20	11.11	1.32	7.69	0.00	17.65	9.09	0.00	2.13		
0.00	14.63	4.00	14.81	4.62	11.54	0.00	23.53	18.18	0.00	2.13		
75.00	75.61	74.80	76.00	97.16	92.31	42.86	70.59	63.64	80.00	91.49		
25.00	9.76	16.40	20.00	1.18	3.85	57.14	11.76	27.27	0.00	8.51	Would you recommend system to another user? (%)	
0.00	12.20	7.20	4.00	1.42	3.85	0.00	17.65	9.09	20.00	0.00		
75.00	75.61	74.80	76.00	97.16	92.31	42.86	70.59	63.64	80.00	91.49		

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

Survey Item	Manufacturer and Model		Microdata (other models)	Modcomp Classic	NCR Century	NCR 300	NCR 8200	NCR 8300	Nixdorf (all models)	Northern Telecom (all models)	Perkin Elmer 732/832	Perkin Elmer 3200	Point 4 (all models)
No. of User Responses	5	4	24	7	45	6	7	12	8	11	9		
No. of Systems Represented	8	4	24	9	48	6	13	18	18	19	12		
Avg. Life of System (Mos.)	34.5	10.0	74.3	74.8	27.7	22.00	64.4	34.8	36.5	10.4	17.6		
Acquisition Method (%)													
Purchase	60.00	75.00	79.17	85.71	52.27	50.00	71.43	16.67	75.00	90.91	87.50		
Rental or Lease from Mfr.	0.00	0.00	12.50	14.29	29.55	50.00	28.57	83.33	0.00	0.00	0.00		
Lease from 3rd Party	40.00	25.00	8.33	0.00	18.18	0.00	0.00	0.00	25.00	9.09	12.50		
Principal Applications (%)													
Accounting/Billing	80.00	75.00	87.50	57.14	80.00	66.67	85.71	75.00	75.00	27.27	88.89		
Banking-check processing/loans/savings	20.00	0.00	8.33	42.86	13.33	16.67	0.00	8.33	12.50	18.18	0.00		
Construction/Architecture	0.00	0.00	0.00	0.00	4.44	0.00	14.29	0.00	0.00	9.09	0.00		
Education-scheduling/administration	20.00	0.00	25.00	0.00	2.22	0.00	0.00	8.33	12.50	9.09	11.11		
Engineering/Scientific	0.00	0.00	8.33	0.00	0.00	0.00	0.00	8.33	12.50	18.18	0.00		
Health care/Medical	0.00	50.00	4.17	14.29	2.22	0.00	0.00	0.00	25.00	0.00	11.11		
Insurance	20.00	25.00	0.00	0.00	0.00	0.00	14.29	8.33	12.50	0.00	11.11		
Manufacturing	20.00	0.00	8.33	0.00	6.67	33.33	0.00	41.67	0.00	18.18	11.11		
Mathematics/Statistics	0.00	0.00	12.50	0.00	0.00	0.00	0.00	8.33	0.00	9.09	11.11		
Order Processing/Inventory Control	60.00	25.00	37.50	0.00	51.11	50.00	57.14	75.00	37.50	36.36	44.44		
Payroll/Personnel	0.00	50.00	79.17	28.57	66.67	100.00	57.14	83.33	25.00	9.09	55.56		
Petroleum/Fuel analysis	0.00	0.00	0.00	0.00	4.44	0.00	14.29	0.00	0.00	0.00	0.00		
Process control	0.00	25.00	4.17	0.00	4.44	0.00	0.00	8.33	12.50	18.18	0.00		
Purchasing	20.00	25.00	20.83	14.29	26.67	0.00	28.57	33.33	25.00	18.18	11.11		
Sales Distribution	40.00	25.00	29.17	0.00	33.33	16.67	57.14	25.00	25.00	18.18	33.33		
Other	20.00	0.00	25.00	14.29	11.11	0.00	42.86	8.33	25.00	27.27	55.56		
Source of Applications Programs (%)													
In-house personnel	40.00	50.00	79.17	42.86	62.22	50.00	57.14	83.33	62.50	81.82	88.89		
"Ready-made" programs from manufacturer	0.00	0.00	45.83	42.86	53.33	83.33	28.57	16.67	25.00	18.18	0.00		
Contract Programming	40.00	0.00	25.00	14.29	26.67	16.67	14.29	41.67	50.00	9.09	22.22		
Manufacturer's Personnel	0.00	0.00	12.50	57.14	13.33	0.00	14.29	0.00	12.50	9.09	0.00		
Proprietary Software Packages	40.00	50.00	8.33	0.00	24.44	0.00	0.00	25.00	50.00	45.45	44.44		
Location of Computer (%)													
Distributed Processing Site	20.00	25.00	0.00	14.29	15.56	0.00	33.33	66.67	37.50	18.18	12.50		
Central Processing Installation	80.00	75.00	100.00	85.71	84.44	100.00	66.67	33.33	62.50	81.82	87.50		
Using Local Workstations/Terminals (%)	100.00	100.00	100.00	100.00	100.00	100.00	85.73	100.00	100.00	100.00	100.00		
Using Remote Workstations/Terminals (%)	100.00	100.00	95.83	100.00	95.56	100.00	71.43	41.67	50.00	81.81	77.77		
Using Data Base Management System (%)													
None	60.00	50.00	4.17	0.00	15.56	33.33	42.86	16.67	12.50	54.55	44.44		
Manufacturer's Package	40.00	50.00	95.83	100.00	84.44	66.67	57.14	83.33	87.50	45.45	55.56		
Outside Vendor's Package	100.00	0.00	100.00	0.00	50.00	100.00	66.67	0.00	0.00	66.67	50.00		
Home-Grown System	0.00	100.00	0.00	0.00	16.67	0.00	0.00	50.00	0.00	33.33	0.00		
Using Communications Monitor (%)													
None	20.00	50.00	16.67	14.29	8.89	16.67	71.43	58.33	25.00	63.64	11.11		
Manufacturer's Package	80.00	50.00	83.33	85.71	91.11	83.33	28.57	41.67	75.00	36.36	88.89		
Outside Vendor's Package	0.00	0.00	75.00	100.00	50.00	0.00	80.00	71.43	0.00	57.14	0.00		
Home-Grown System	100.00	50.00	25.00	0.00	50.00	0.00	0.00	14.29	50.00	42.86	0.00		
Using Integrated Word Processing Functions (%)													
Planned Acquisitions/Implementations for 1981 (%)	20.00	0.00	4.17	14.29	4.44	0.00	14.29	0.00	25.00	0.00	55.56		
Additional Software from the Manufacturer	0.00	0.00	12.50	42.86	20.00	33.33	28.57	16.67	37.50	18.18	33.33		
Proprietary Software from other suppliers	20.00	25.00	16.67	14.29	22.22	16.67	0.00	16.67	25.00	36.36	11.11		
Expansions to Data Communications facilities	0.00	25.00	16.67	28.57	17.78	66.67	28.57	41.67	37.50	54.55	11.11		
Distributed Processing capabilities	0.00	0.00	4.17	14.29	2.22	0.00	14.29	33.33	12.50	9.09	11.11		
Expansions to present hardware	20.00	75.00	25.00	28.57	35.56	16.67	14.29	33.33	37.50	54.55	55.56		
Another Computer System, same model	20.00	0.00	25.00	14.29	6.67	0.00	0.00	8.33	0.00	27.27	0.00		
Integrated Word Processing capabilities	0.00	0.00	0.00	14.29	4.44	0.00	14.29	8.33	0.00	27.27	22.22		
Plans for system replacement in 1981 (%)													
Yes, same manufacturer	0.00	0.00	8.33	14.29	20.00	16.67	0.00	0.00	0.00	9.09	0.00		
Yes, vendor unknown	0.00	0.00	29.17	42.86	6.67	0.00	0.00	16.67	0.00	9.09	0.00		
Yes, different vendor	20.00	0.00	16.67	28.57	13.33	16.67	0.00	25.00	12.50	0.00	0.00		
No	80.00	100.00	45.83	14.29	60.00	50.00	100.00	58.33	87.50	81.82	100.00		

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

Micodata (other models)	Modcomp Classic	NCR Century	NCR 300	NCR 8200	NCR 8300	Nixdorf (all models)	Northern Telecom (all models)	Perkin Elmer 732/832	Perkin Elmer 3200	Point 4 (all models)	Manufacturer and Model
											Survey Item
											Significant Advantages (%)
0.00	75.00	37.50	28.57	37.78	33.33	57.14	41.67	62.50	63.64	77.78	Users are happy with response time
4.00	75.00	50.00	28.57	55.56	50.00	57.14	25.00	62.50	90.91	100.00	System is easy to expand/reconfigure
0.00	25.00	33.33	28.57	15.56	0.00	0.00	8.33	25.00	27.27	55.56	System costs were less than expected
0.00	50.00	45.83	14.29	22.22	83.33	14.29	16.67	12.50	27.27	44.44	Programs/data carried over from other systems are compatible, as vendor promised
0.00	50.00	12.50	14.29	15.56	16.67	0.00	8.33	25.00	36.36	66.67	Terminals/peripherals carried over from other systems are compatible, as vendor promised
0.00	25.00	8.33	28.57	13.33	0.00	14.29	8.33	37.50	18.18	55.56	System is power/energy efficient
4.00	0.00	8.33	0.00	17.78	16.67	28.57	8.33	12.50	45.45	44.44	Productivity aids help us keep programming costs down
4.00	25.00	4.17	0.00	8.89	0.00	57.14	0.00	0.00	27.27	11.11	Data base language is efficient and effective
0.00	25.00	12.50	0.00	11.11	0.00	14.29	8.33	0.00	36.36	33.33	Delivery and/or installation of equipment was ahead of schedule
0.00	0.00	8.33	0.00	6.67	0.00	28.57	0.00	0.00	27.27	22.22	Delivery of required software was ahead of schedule
											Significant Problems (%)
20.00	0.00	4.17	14.29	24.44	16.67	0.00	33.33	12.50	18.18	0.00	Computer proposed by vendor was too small
4.00	25.00	8.33	0.00	20.00	0.00	0.00	16.67	50.00	0.00	11.11	Installation of equipment was late
4.00	0.00	8.33	14.29	28.89	0.00	0.00	16.67	62.50	0.00	22.22	Delivery of required software was late
0.00	25.00	16.67	14.29	17.78	0.00	0.00	0.00	12.50	9.09	11.11	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
20.00	0.00	20.83	57.14	33.33	0.00	0.00	33.33	25.00	9.09	0.00	Vendor did not provide all the promised software or support
0.00	0.00	0.00	0.00	15.56	0.00	0.00	0.00	0.00	9.09	0.00	Program/data compatibility not what vendor promised
0.00	0.00	4.17	0.00	4.44	0.00	0.00	0.00	12.50	0.00	0.00	Terminals/peripherals compatibility not what vendor promised
20.00	0.00	20.83	14.29	17.78	33.33	14.29	25.00	37.50	18.18	11.11	Vendor enhancements/changes to hardware/software hard to keep up with
0.00	0.00	29.17	42.86	17.78	0.00	0.00	33.33	12.50	9.09	0.00	Equipment is excessively noisy
0.00	0.00	12.50	14.29	2.22	0.00	0.00	0.00	0.00	0.00	0.00	Power and/or cooling requirements are excessive
											System Ratings (4.0-0.0)
3.60	3.00	3.17	2.86	3.22	3.17	3.71	3.17	3.00	3.45	3.78	Ease of operation
2.60	3.50	3.54	3.14	3.29	2.67	3.14	2.83	3.38	3.82	3.88	Reliability of Mainframe
3.40	3.50	2.92	3.17	3.13	2.67	2.86	2.42	2.63	3.36	3.56	Reliability of Peripherals
3.20	3.25	3.00	3.43	2.91	3.17	3.43	3.00	3.13	3.45	3.11	Maintenance service:
3.00	3.25	2.88	3.29	2.82	3.33	3.17	2.18	2.75	3.20	3.22	Responsiveness
											Effectiveness
2.20	3.25	2.41	3.20	2.41	2.33	3.43	2.75	2.50	2.73	3.44	Technical support:
2.00	2.50	2.41	2.50	2.41	2.67	3.17	2.00	2.00	2.78	3.00	Trouble-shooting
2.00	2.25	2.17	2.00	2.32	2.33	3.00	2.08	2.00	2.82	2.89	Education
											Documentation
3.25	3.25	2.96	2.83	2.82	2.67	3.17	2.70	2.50	2.91	3.67	Manufacturer's software:
3.25	3.50	2.92	2.17	3.07	2.83	3.17	2.50	2.75	3.55	3.67	Operating system
4.00	3.33	2.52	2.40	2.32	2.67	3.25	2.33	2.83	2.67	3.38	Compilers & Assemblers
4.00	3.00	2.92	2.14	3.07	2.67	3.67	2.80	2.63	3.40	3.78	Applications Programs
3.00	2.75	2.86	2.33	2.70	3.00	3.40	2.71	2.50	3.40	3.43	Ease of Programming
2.80	3.50	2.88	2.71	2.76	2.50	3.33	2.58	2.88	3.36	3.78	Ease of conversion
											Overall satisfaction
											Did the system do what you expected it to do? (%)
80.00	100.00	91.67	85.71	75.56	66.67	85.71	83.33	87.50	90.91	100.00	Yes
20.00	0.00	8.33	14.29	15.56	16.67	0.00	8.33	12.50	0.00	0.00	No
0.00	0.00	0.00	0.00	8.89	16.67	14.29	8.33	0.00	9.09	0.00	Haven't decided
											Would you recommend system to another user? (%)
60.00	75.00	50.00	57.14	66.67	50.00	100.00	58.33	87.50	90.91	100.00	Yes
20.00	0.00	37.50	42.86	22.22	16.67	0.00	16.67	12.50	0.00	0.00	No
20.00	25.00	8.33	0.00	11.11	33.33	0.00	25.00	0.00	9.09	0.00	Haven't decided

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

Survey Item	Manufacturer and Model	Prime Info	Prime 300/350	Prime 400/450	Prime 500/550	Prime 650	Prime 750	Prime (other models)	Quantel 200/300	Quantel 1400	Quantel (other models)	Tandem T16
No. of User Responses		4	7	21	16	4	12	3	5	11	5	10
No. of Systems Represented		4	11	25	17	5	24	3	19	14	5	19
Avg. Life of System (Mos.)		8.5	26.3	30.5	15.9	12.0	8.9	6.0	8.2	20.1	16.3	14.9
Acquisition Method (%)												
Purchase		75.00	85.71	57.14	62.50	50.00	50.00	33.33	40.00	88.89	100.00	80.00
Rental or Lease from Mfr.		25.00	0.00	28.57	12.50	50.00	33.33	66.67	0.00	0.00	0.00	0.00
Lease from 3rd Party		0.00	14.29	14.29	25.00	0.00	16.67	0.00	60.00	11.11	0.00	20.00
Principal Applications (%)												
Accounting/Billing		50.00	42.86	61.90	62.50	75.00	16.67	66.67	100.00	100.00	80.00	30.00
Banking-check processing/loans/savings		0.00	0.00	4.76	12.50	0.00	0.00	0.00	0.00	11.11	0.00	20.00
Construction/Architecture		0.00	14.29	4.76	6.25	25.00	0.00	0.00	20.00	0.00	0.00	0.00
Education-scheduling/administration		25.00	0.00	4.76	25.00	0.00	16.67	0.00	0.00	0.00	0.00	20.00
Engineering/Scientific		0.00	28.57	28.57	43.75	0.00	33.33	0.00	0.00	0.00	0.00	20.00
Health care/Medical		0.00	0.00	4.76	6.25	0.00	0.00	0.00	20.00	11.11	0.00	20.00
Insurance		0.00	14.29	0.00	0.00	0.00	8.33	0.00	20.00	0.00	0.00	0.00
Manufacturing		25.00	14.29	4.76	25.00	0.00	8.33	33.33	40.00	66.67	0.00	0.00
Mathematics/Statistics		50.00	28.57	23.81	31.25	0.00	16.67	0.00	20.00	0.00	0.00	10.00
Order Processing/Inventory Control		25.00	28.57	23.81	50.00	0.00	33.33	66.67	100.00	66.67	80.00	20.00
Payroll/Personnel		50.00	28.57	38.10	50.00	25.00	25.00	66.67	100.00	77.78	20.00	20.00
Petroleum/Fuel analysis		0.00	0.00	9.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Process control		0.00	0.00	4.76	0.00	0.00	8.33	33.33	0.00	0.00	0.00	0.00
Purchasing		50.00	14.29	9.52	6.25	0.00	16.67	66.67	60.00	77.78	0.00	0.00
Sales Distribution		0.00	28.57	14.29	18.75	0.00	25.00	33.33	100.00	77.78	40.00	0.00
Other		25.00	42.86	52.38	18.75	25.00	25.00	66.67	0.00	22.22	40.00	30.00
Source of Applications Programs (%)												
In-house personnel		50.00	100.00	95.24	87.50	100.00	83.33	66.67	40.00	66.67	40.00	80.00
"Ready-made" programs from manufacturer		25.00	14.29	23.81	25.00	50.00	25.00	0.00	100.00	77.78	60.00	20.00
Contract Programming		0.00	42.86	9.52	56.25	50.00	41.67	33.33	80.00	88.89	40.00	20.00
Manufacturer's Personnel		0.00	0.00	4.76	0.00	25.00	8.33	0.00	40.00	0.00	0.00	0.00
Proprietary Software Packages		100.00	14.29	33.33	56.25	75.00	50.00	33.33	20.00	0.00	0.00	50.00
Location of Computer (%)												
Distributed Processing Site		0.00	0.00	0.00	18.75	50.00	8.33	0.00	0.00	0.00	0.00	30.00
Central Processing Installation		100.00	100.00	100.00	81.25	50.00	91.67	100.00	100.00	100.00	100.00	70.00
Using Local Workstations/Terminals (%)		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	80.00	100.00
Using Remote Workstations/Terminals (%)		50.00	85.72	80.95	68.75	100.00	83.33	100.00	60.00	33.33	20.00	100.00
Using Data Base Management System (%)		75.00	14.29	47.62	37.50	50.00	50.00	33.33	80.00	55.56	40.00	80.00
None		25.00	85.71	52.38	62.50	50.00	50.00	66.67	20.00	44.44	40.00	20.00
Manufacturer's Package		100.00	0.00	44.44	83.33	50.00	66.67	0.00	100.00	60.00	100.00	87.50
Outside Vendor's Package		0.00	0.00	44.44	0.00	50.00	33.33	100.00	0.00	20.00	0.00	12.50
Home-Grown System		0.00	100.00	11.11	16.67	0.00	0.00	0.00	0.00	20.00	0.00	0.00
Using Communications Monitor (%)		25.00	28.57	23.81	18.75	25.00	41.67	66.67	20.00	33.33	0.00	50.00
None		75.00	71.43	76.19	81.25	75.00	58.33	33.33	80.00	55.56	100.00	50.00
Manufacturer's Package		100.00	0.00	80.00	66.67	100.00	100.00	0.00	100.00	66.67	0.00	60.00
Outside Vendor's Package		0.00	0.00	20.00	33.33	0.00	0.00	50.00	0.00	33.33	0.00	40.00
Home-Grown System		0.00	100.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00
Using Integrated Word Processing Functions (%)		75.00	57.14	28.57	37.50	75.00	50.00	100.00	80.00	77.78	40.00	40.00
Planned Acquisitions/Implementations for 1981 (%)												
Additional Software from the Manufacturer		0.00	0.00	23.81	50.00	25.00	25.00	33.33	20.00	55.56	20.00	40.00
Proprietary Software from other suppliers		50.00	0.00	23.81	37.50	25.00	50.00	0.00	20.00	33.33	0.00	20.00
Expansions to Data Communications facilities		25.00	28.57	28.57	43.75	50.00	58.33	66.67	40.00	22.22	0.00	20.00
Distributed Processing capabilities		0.00	0.00	4.76	6.25	50.00	8.33	0.00	0.00	11.11	20.00	0.00
Expansions to present hardware		75.00	71.43	61.90	81.25	50.00	25.00	66.67	60.00	66.67	20.00	90.00
Another Computer System, same model		0.00	0.00	23.81	25.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00
Integrated Word Processing capabilities		0.00	0.00	9.52	37.50	0.00	16.67	0.00	0.00	0.00	0.00	0.00
Plans for system replacement in 1981 (%)												
Yes, same manufacturer		0.00	28.57	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Yes, vendor unknown		0.00	0.00	0.00	0.00	0.00	8.33	0.00	0.00	0.00	0.00	0.00
Yes, different vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	0.00
No		100.00	71.43	85.71	100.00	100.00	91.67	100.00	100.00	88.89	100.00	100.00

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

Prime Info	Prime 300/350	Prime 400/450	Prime 500/550	Prime 650	Prime 750	Prime (other models)	Qantel 200/300	Qantel 1400	Qantel (other models)	Tandem T16	Manufacturer and Model	
											Survey Item	
50.00	71.43	66.67	62.50	75.00	83.33	100.00	80.00	44.44	20.00	80.00	Significant Advantages (%)	
75.00	100.00	95.24	100.00	50.00	58.33	100.00	100.00	66.67	20.00	100.00	Users are happy with response time	
25.00	42.86	19.05	31.25	0.00	0.00	0.00	40.00	22.22	0.00	0.00	System is easy to expand/reconfigure	
25.00	28.57	42.86	18.75	0.00	25.00	0.00	80.00	44.44	0.00	20.00	System costs were less than expected	
50.00	14.29	47.62	31.25	0.00	16.67	0.00	40.00	22.22	0.00	10.00	Programs/data carried over from other systems are compatible, as vendor promised	
25.00	0.00	23.81	12.50	0.00	8.33	33.33	60.00	22.22	0.00	30.00	Terminals/peripherals carried over from other systems are compatible, as vendor promised	
75.00	42.86	42.86	18.75	50.00	25.00	66.67	60.00	44.44	20.00	50.00	System is power/energy efficient	
75.00	0.00	19.05	18.75	25.00	25.00	33.33	80.00	44.44	40.00	80.00	Productivity aids help us keep programming costs down	
25.00	28.57	33.33	25.00	0.00	16.67	33.33	60.00	33.33	0.00	20.00	Data base language is efficient and effective	
25.00	14.29	14.29	6.25	0.00	8.33	33.33	40.00	22.22	20.00	0.00	Delivery and/or installation of equipment was ahead of schedule	
25.00	14.29	23.81	12.50	0.00	0.00	33.33	0.00	22.22	20.00	20.00	Delivery of required software was ahead of schedule	
0.00	0.00	4.76	6.25	0.00	8.33	0.00	20.00	22.22	0.00	20.00	Significant Problems (%)	
0.00	0.00	9.52	6.25	0.00	8.33	0.00	0.00	11.11	0.00	10.00	Computer proposed by vendor was too small	
0.00	0.00	4.76	12.50	0.00	8.33	0.00	0.00	33.33	0.00	0.00	Installation of equipment was late	
0.00	0.00	4.76	0.00	0.00	8.33	0.00	0.00	0.00	0.00	0.00	Delivery of required software was late	
0.00	0.00	4.76	0.00	0.00	8.33	0.00	0.00	33.33	0.00	10.00	System costs (for hardware, vendor-supplied software, support) exceeded the expected total	
0.00	0.00	4.76	0.00	0.00	8.33	0.00	0.00	33.33	0.00	10.00	Vendor did not provide all the promised software or support	
0.00	0.00	4.76	0.00	0.00	16.67	33.33	0.00	0.00	0.00	0.00	Program/data compatibility not what vendor promised	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Terminals/peripherals compatibility not what vendor promised	
0.00	28.57	4.76	6.25	0.00	16.67	0.00	0.00	33.33	0.00	10.00	Vendor enhancements/changes to hardware/software hard to keep up with	
0.00	14.29	0.00	12.50	0.00	0.00	33.33	0.00	0.00	0.00	0.00	Equipment is excessively noisy	
0.00	0.00	4.76	6.25	0.00	0.00	0.00	11.11	0.00	0.00	0.00	Power and/or cooling requirements are excessive	
3.50	3.57	3.67	3.63	3.50	3.42	4.00	4.00	3.56	3.60	3.70	System Ratings (4.0-0.0)	
3.75	3.83	3.76	3.44	3.75	3.42	4.00	3.80	3.22	3.60	3.80	Ease of operation	
2.75	3.67	3.43	3.27	3.75	3.17	3.00	3.80	2.89	3.20	2.80	Reliability of Mainframe	
4.00	3.33	3.24	2.81	2.75	3.00	3.33	4.00	3.11	3.25	3.30	Reliability of Peripherals	
2.75	3.17	3.10	2.88	2.75	2.58	3.00	4.00	2.78	3.50	3.11	Maintenance service:	
											Responsiveness	
											Effectiveness	
3.00	2.57	3.05	2.73	3.25	2.42	3.33	3.60	2.67	2.50	2.80	Technical support:	
2.50	2.25	2.95	2.56	2.50	2.67	3.00	3.00	2.67	2.50	3.20	Trouble-shooting	
2.50	2.43	2.90	2.69	3.25	2.75	3.00	2.80	2.44	2.25	2.80	Education	
											Documentation	
3.50	3.71	3.67	3.56	3.50	3.50	4.00	3.80	3.44	3.50	3.80	Manufacturer's software:	
3.75	3.43	3.50	3.13	3.50	3.17	3.67	3.80	3.56	3.50	3.50	Operating system	
3.33	—	2.87	3.00	3.33	2.82	4.00	3.60	3.00	3.25	2.33	Compilers & Assemblers	
											Applications Programs	
3.50	3.14	3.52	3.38	3.25	3.17	3.00	3.60	3.56	2.75	3.60	Ease of Programming	
3.33	3.00	3.40	3.08	3.00	2.91	3.00	3.60	3.38	3.00	3.38	Ease of conversion	
3.75	3.29	3.52	3.50	3.50	3.25	3.67	3.80	2.89	3.25	3.70	Overall satisfaction	
100.00	100.00	100.00	75.00	50.00	83.33	66.67	100.00	66.67	100.00	100.00	Did the system do what you expected it to do? (%)	
0.00	0.00	0.00	6.25	0.00	8.33	0.00	0.00	11.11	0.00	0.00	Yes	
0.00	0.00	0.00	18.75	50.00	8.33	33.33	0.00	22.22	0.00	0.00	No	
											Haven't decided	
100.00	85.71	95.24	75.00	75.00	91.67	100.00	100.00	77.78	100.00	90.00	Would you recommend system to another user? (%)	
0.00	14.29	4.76	0.00	0.00	8.33	0.00	0.00	11.11	0.00	0.00	Yes	
0.00	0.00	0.00	25.00	25.00	0.00	0.00	0.00	11.11	0.00	10.00	No	
											Haven't decided	

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

Survey Item	Texas Instruments 990	Univac BC-7	Univac 9000 Series	Univac (other models)	Wang PCS & WCS	Wang VS	Wang 2200 Misc.	Wang 2200 MVP	Wang 2200 VP	Other Minicomputers	
No. of User Responses	46	9	11	6	6	44	10	30	7	37	
No. of Systems Represented	56	12	11	13	7	50	14	34	7	46	
Avg. Life of System (Mos.)	16.2	33.3	99.6	113.0	32.0	13.8	41.2	16.4	35.2	40.1	
Acquisition Method (%)											
Purchase	82.61	44.44	36.36	50.00	66.67	56.82	80.00	65.52	57.14	70.27	
Rental or Lease from Mfr.	0.00	44.44	63.64	33.33	16.67	25.00	10.00	20.69	42.86	16.22	
Lease from 3rd Party	17.39	11.11	0.00	16.67	16.67	18.18	10.00	13.79	0.00	13.51	
Principal Applications (%)											
Accounting/Billing	80.43	77.78	81.82	16.67	50.00	75.00	90.00	76.67	42.86	67.57	
Banking-check processing/loans/savings	2.17	100.00	100.00	0.00	0.00	0.00	10.00	0.00	14.29	2.70	
Construction/Architecture	8.70	11.11	0.00	0.00	0.00	4.55	0.00	6.67	0.00	5.41	
Education-scheduling/administration	4.35	0.00	0.00	16.67	0.00	9.09	10.00	0.00	14.29	13.51	
Engineering/Scientific	6.52	0.00	0.00	16.67	16.67	6.82	10.00	10.00	14.29	13.51	
Health care/Medical	6.52	0.00	0.00	0.00	0.00	9.09	20.00	3.33	14.29	0.00	
Insurance	6.52	0.00	0.00	0.00	0.00	13.64	0.00	6.67	14.29	5.41	
Manufacturing	17.39	11.11	18.18	0.00	16.67	20.45	20.00	6.67	0.00	21.62	
Mathematics/Statistics	13.04	22.22	9.09	16.67	16.67	13.64	0.00	6.67	42.86	16.22	
Order Processing/Inventory Control	47.83	44.44	54.55	33.33	16.67	59.09	60.00	43.33	42.86	62.16	
Payroll/Personnel	52.17	44.44	72.73	16.67	16.67	54.55	50.00	46.67	57.14	43.24	
Petroleum/Fuel analysis	2.17	0.00	9.09	0.00	0.00	2.27	0.00	6.67	0.00	0.00	
Process control	2.17	11.11	9.09	0.00	0.00	2.27	0.00	6.67	14.29	8.11	
Purchasing	26.09	11.11	36.36	0.00	16.67	22.73	30.00	30.00	28.57	21.62	
Sales Distribution	32.61	22.22	54.55	16.67	33.33	38.64	20.00	36.67	42.86	29.73	
Other	21.74	33.00	18.18	66.67	33.33	34.09	10.00	23.33	28.57	21.62	
Source of Applications Programs (%)											
In-house personnel	86.96	77.78	100.00	83.33	50.00	100.00	60.00	56.67	71.43	64.86	
"Ready-made" programs from manufacturer	13.04	33.33	27.27	33.33	33.33	27.27	10.00	13.33	0.00	35.14	
Contract Programming	34.78	66.67	18.18	16.67	16.67	31.82	50.00	33.33	14.29	43.24	
Manufacturer's Personnel	2.17	11.11	18.18	0.00	0.00	4.55	0.00	6.67	14.29	5.41	
Proprietary Software Packages	23.91	0.00	9.09	16.67	16.67	47.73	20.00	46.67	28.57	21.62	
Location of Computer (%)											
Distributed Processing Site	10.87	0.00	0.00	0.00	16.67	4.55	0.00	10.00	14.29	17.14	
Central Processing Installation	89.13	100.00	100.00	100.00	83.33	95.45	100.00	90.00	85.71	82.86	
Using Local Workstations/Terminals (%)	100.00	100.00	63.64	100.00	83.33	100.00	80.00	93.34	71.43	78.38	
Using Remote Workstations/Terminals (%)	52.17	22.22	36.36	66.67	16.67	38.64	0.00	30.00	100.00	24.33	
Using Data Base Management System (%)											
None	23.91	22.22	18.18	50.00	0.00	11.36	20.00	36.67	42.86	18.92	
Manufacturer's Package	76.09	77.78	81.82	50.00	100.00	84.09	80.00	63.33	57.14	75.68	
Outside Vendor's Package	45.45	50.00	50.00	33.33	0.00	80.00	50.00	18.18	0.00	57.14	
Home-Grown System	0.00	0.00	0.00	0.00	0.00	50.00	54.55	33.33	14.29	28.57	
Using Communications Monitor (%)											
None	34.78	0.00	36.36	66.67	16.67	36.36	10.00	13.33	0.00	29.73	
Manufacturer's Package	65.22	100.00	63.64	33.33	83.33	59.09	90.00	86.67	100.00	67.57	
Outside Vendor's Package	80.00	0.00	100.00	50.00	100.00	93.75	0.00	75.00	0.00	80.00	
Home-Grown System	20.00	0.00	0.00	25.00	0.00	0.00	100.00	0.00	0.00	10.00	
Using Integrated Word Processing Functions (%)	0.00	0.00	0.00	0.00	0.00	6.25	0.00	25.00	0.00	10.00	
Planned Acquisitions/Implementations for 1981 (%)	52.17	11.11	0.00	16.67	33.33	61.36	20.00	76.67	57.14	37.84	
Additional Software from the Manufacturer	28.26	11.11	0.00	16.67	16.67	18.18	20.00	20.00	14.29	29.73	
Proprietary Software from other suppliers	19.57	11.11	27.27	16.67	33.33	29.55	0.00	23.33	28.57	18.92	
Expansions to Data Communications facilities	41.30	33.33	18.18	50.00	16.67	45.45	20.00	26.67	28.57	29.73	
Distributed Processing capabilities	19.57	11.11	18.18	16.67	0.00	22.73	0.00	6.67	14.29	13.51	
Expansions to present hardware	58.70	66.67	9.09	16.67	33.33	61.36	30.00	43.33	28.57	40.54	
Another Computer System, same model	6.52	11.11	18.18	0.00	0.00	11.36	0.00	6.67	0.00	18.92	
Integrated Word Processing capabilities	15.22	0.00	0.00	0.00	0.00	27.27	0.00	10.00	14.29	5.41	
Plans for system replacement in 1981 (%)											
Yes, same manufacturer	6.52	22.22	27.27	0.00	0.00	6.82	10.00	10.00	0.00	8.11	
Yes, vendor unknown	2.17	11.11	27.27	0.00	16.67	2.27	30.00	0.00	14.29	8.11	
Yes, different vendor	0.00	11.11	18.18	0.00	16.67	6.82	10.00	3.33	14.29	8.11	
No	91.30	55.56	27.27	100.00	66.67	84.09	50.00	83.33	71.43	75.68	

## User Ratings of Computer Systems

Table 2. Minicomputers &amp; Small Business Computers

	Texas Instruments 990	Univac BC-7	Univac 9000 Series	Univac (other models)	Wang PCS & WCS	Wang VS	Wang 2200 Misc.	Wang 2200 MVP	Wang 2200 VP	Other Minicomputers	Manufacturer and Model
	Survey Item										
	82.61	33.33	9.09	50.00	50.00	72.73	30.00	66.67	57.14	35.14	Significant Advantages (%)
	82.61	66.67	9.09	50.00	66.67	90.91	50.00	70.00	71.43	48.65	Users are happy with response time
	28.26	11.11	9.09	16.67	0.00	25.00	10.00	20.00	28.57	24.32	System is easy to expand/reconfigure
	28.26	22.22	0.00	0.00	0.00	40.91	0.00	20.00	14.29	18.92	System costs were less than expected
	21.74	0.00	0.00	0.00	0.00	9.09	0.00	10.00	14.29	21.62	Programs/data carried over from other systems are compatible, as vendor promised
	39.13	33.33	0.00	33.33	33.33	34.09	20.00	33.33	14.29	18.92	Terminals/peripherals carried over from other systems are compatible, as vendor promised
	45.65	33.33	0.00	16.67	33.33	93.18	10.00	36.67	42.86	27.03	System is power/energy efficient
	10.87	1.11	0.00	16.67	16.67	15.91	20.00	10.00	28.57	8.11	Productivity aids help us keep programming costs down
	30.43	0.00	0.00	0.00	16.67	22.73	0.00	3.33	28.57	10.81	Data base language is efficient and effective
	19.57	0.0	0.00	0.00	0.00	15.91	10.00	10.00	28.57	10.81	Delivery and/or installation of equipment was ahead of schedule
	2.17	22.22	0.00	0.00	16.67	11.36	10.00	16.67	14.29	10.81	Delivery of required software was ahead of schedule
	8.70	44.44	0.00	33.33	33.33	25.00	0.00	23.33	14.29	10.81	Significant Problems (%)
	8.70	22.22	0.00	16.67	33.33	11.36	0.00	6.67	14.29	10.81	Computer proposed by vendor was too small
	8.70	0.00	9.09	16.67	33.33	4.55	0.00	13.33	0.00	2.70	Installation of equipment was late
	2.17	11.11	18.18	16.67	33.33	25.00	0.00	6.67	42.86	13.51	Delivery of required software was late
	0.00	22.22	9.09	16.67	0.00	6.82	0.00	3.33	14.29	5.41	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
	2.17	0.00	9.09	0.00	0.00	2.27	0.00	3.33	0.00	5.41	Vendor did not provide all the promised software or support
	15.22	22.22	18.18	16.67	0.00	9.09	10.00	3.33	14.29	8.11	Program/data compatibility not what vendor promised
	8.70	11.11	45.45	0.00	16.67	2.27	30.00	6.67	0.00	5.41	Terminals/peripherals compatibility not what vendor promised
	0.00	33.33	36.36	16.67	16.67	9.09	10.00	3.33	0.00	10.81	Vendor enhancements/changes to hardware/software hard to keep up with
	3.55	3.22	2.50	3.17	3.50	3.75	3.50	3.60	3.71	3.41	Equipment is excessively noisy
	3.72	2.67	2.40	3.67	3.33	3.57	3.67	3.50	3.57	3.42	Power and/or cooling requirements are excessive
	3.53	2.33	2.10	3.17	3.50	2.95	3.20	3.14	3.00	3.08	System Ratings (4.0-0.0)
	3.27	3.44	2.91	2.83	2.17	2.70	2.40	2.90	2.43	3.09	Ease of operation
	3.12	2.56	2.55	2.67	3.00	2.61	2.60	2.77	2.00	3.05	Reliability of Mainframe
	2.91	2.22	2.18	3.50	2.40	2.63	2.40	2.79	1.50	2.69	Reliability of Peripherals
	2.64	2.22	2.27	2.33	2.20	2.43	2.40	2.55	1.83	2.48	Maintenance service:
	2.87	2.00	2.00	2.00	2.50	2.23	2.60	2.76	2.14	2.76	Responsiveness
	3.40	2.67	2.27	3.20	2.80	3.56	3.29	3.36	3.33	3.18	Effectiveness
	3.34	2.89	2.64	3.17	2.67	3.57	3.50	3.37	3.60	2.86	Technical support:
	2.94	2.50	2.25	3.20	2.67	3.34	2.75	2.89	2.33	2.79	Trouble-shooting
	3.47	3.00	2.50	3.17	3.17	3.79	3.50	3.46	3.29	3.10	Education
	3.23	2.25	2.20	2.50	3.50	3.10	3.40	3.11	2.50	2.68	Documentation
	3.52	2.44	2.45	2.83	3.17	3.41	3.10	3.23	2.86	3.00	Manufacturer's software:
	93.48	66.67	54.55	66.67	83.33	88.64	70.00	86.67	85.71	83.78	Operating system
	4.35	0.00	27.27	33.33	16.67	9.09	10.00	3.33	0.00	5.41	Compilers & Assemblers
	2.17	33.33	9.09	0.00	0.00	2.27	20.00	10.00	14.29	10.81	Applications Programs
	91.30	55.56	9.09	50.00	50.00	90.91	50.00	90.00	57.14	68.09	Ease of Programming
	0.00	22.22	72.73	33.33	50.00	4.55	40.00	3.33	42.86	17.02	Ease of conversion
	8.70	22.22	9.09	16.67	0.00	4.55	10.00	6.67	0.00	12.77	Overall satisfaction
	93.48	66.67	54.55	66.67	83.33	88.64	70.00	86.67	85.71	83.78	Did the system do what you expected it to do? (%)
	4.35	0.00	27.27	33.33	16.67	9.09	10.00	3.33	0.00	5.41	Yes
	2.17	33.33	9.09	0.00	0.00	2.27	20.00	10.00	14.29	10.81	No
											Haven't decided
	91.30	55.56	9.09	50.00	50.00	90.91	50.00	90.00	57.14	68.09	Would you recommend system to another user? (%)
	0.00	22.22	72.73	33.33	50.00	4.55	40.00	3.33	42.86	17.02	Yes
	8.70	22.22	9.09	16.67	0.00	4.55	10.00	6.67	0.00	12.77	No
											Haven't decided

## User Ratings of Computer Systems

Table 3. Desktop, Personal, &amp; Microcomputers

Survey Item	Manufacturer and Model	Alpha Micro (all models)	Altos (all models)	AM Jacquard J100/500	Apple (all models)	Commodore (all models)	Cromemco (all models)	Heath (all models)	Hewlett-Packard 9800	IBM 5100
No. of User Responses	15	10	4	48	7	8	4	4	4	30
No. of Systems Represented	20	12	7	77	12	14	4	4	4	41
Avg. Life of System (Mos.)	20.3	7.1	22.5	11.2	13.6	8.9	15.3	28.0	21.8	
Acquisition Method (%)										
Purchase	86.67	80.00	50.00	100.00	100.00	87.50	100.00	100.00	93.33	
Rental or Lease from Mfr.	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	3.33
Lease from 3rd Party	13.33	20.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	3.33
Principal Applications (%)										
Accounting/Billing	60.00	50.00	50.00	43.75	57.14	25.00	50.00	25.00	83.33	
Banking-check processing/loans/savings	20.00	0.00	0.00	6.25	0.00	0.00	25.00	0.00	0.00	
Construction/Architecture	0.00	0.00	0.00	4.17	0.00	0.00	0.00	0.00	0.00	3.33
Education-scheduling/administration	6.67	0.00	25.00	14.58	14.29	12.50	0.00	0.00	0.00	3.33
Engineering/Scientific	6.67	0.00	0.00	6.25	14.29	62.50	50.00	50.00	6.67	
Health care/Medical	6.67	10.00	0.00	10.42	14.29	25.00	0.00	0.00	0.00	6.67
Insurance	0.00	0.00	0.00	4.17	0.00	0.00	0.00	0.00	0.00	10.00
Manufacturing	6.67	0.00	0.00	6.25	0.00	12.50	25.00	25.00	10.00	
Mathematics/Statistics	13.33	0.00	0.00	29.17	0.00	25.00	25.00	25.00	10.00	
Order Processing/Inventory Control	26.67	30.00	25.00	25.00	14.29	25.00	25.00	25.00	30.00	
Payroll/Personnel	33.33	20.00	0.00	27.08	0.00	25.00	25.00	25.00	50.00	
Petroleum/Fuel analysis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Process control	0.00	0.00	0.00	2.08	0.00	0.00	0.00	25.00	0.00	3.33
Purchasing	6.67	10.00	0.00	6.25	0.00	0.00	0.00	25.00	0.00	20.00
Sales Distribution	6.67	0.00	0.00	4.17	14.29	0.00	0.00	0.00	0.00	20.00
Other	40.00	70.00	75.00	43.75	42.86	25.00	25.00	75.00	23.33	
Source of Applications Programs (%)										
In-house personnel	73.33	40.00	75.00	70.83	71.43	75.00	100.00	100.00	83.33	
"Ready-made" programs from manufacturer	46.67	30.00	100.00	70.83	42.86	50.00	0.00	50.00	16.67	
Contract Programming	26.67	30.00	0.00	8.33	0.00	25.00	0.00	0.00	23.33	
Manufacturer's Personnel	6.67	0.00	25.00	2.08	0.00	0.00	0.00	0.00	6.67	
Proprietary Software Packages	20.00	80.00	0.00	35.42	28.57	75.00	50.00	25.00	20.00	
Location of Computer (%)										
Distributed Processing Site	13.33	30.00	25.00	24.44	16.67	25.00	0.00	25.00	6.90	
Central Processing Installation	86.67	70.00	75.00	75.56	83.33	75.00	100.00	75.00	93.10	
Using Local Workstations/Terminals (%)	100.00	50.00	100.00	68.75	71.43	100.00	100.00	75.00	46.66	
Using Remote Workstations/Terminals (%)	26.67	10.00	25.00	2.08	14.29	50.00	0.00	25.00	3.33	
Using Data Base Management System (%)	46.67	30.00	0.00	29.17	42.86	75.00	50.00	50.00	16.67	
None	53.33	70.00	100.00	68.75	57.14	25.00	50.00	50.00	83.33	
Manufacturer's Package	28.57	0.00	0.00	14.29	0.00	50.00	0.00	0.00	60.00	
Outside Vendor's Package	42.86	66.67	0.00	57.14	66.67	33.33	0.00	50.00	20.00	
Home-Grown System	28.57	33.33	0.00	28.57	33.33	16.67	100.00	50.00	20.00	
Using Communications Monitor (%)	6.67	0.00	25.00	16.67	14.29	25.00	50.00	25.00	0.00	
None	86.67	100.00	75.00	81.25	85.71	75.00	50.00	75.00	96.67	
Manufacturer's Package	0.00	0.00	100.00	37.50	0.00	0.00	0.00	100.00	0.00	
Outside Vendor's Package	100.00	0.00	0.00	62.50	0.00	0.00	50.00	0.00	0.00	
Home-Grown System	0.00	0.00	0.00	0.00	100.00	100.00	50.00	0.00	0.00	
Using Integrated Word Processing Functions (%)	80.00	60.00	100.00	45.83	71.43	75.00	50.00	50.00	43.33	
Planned Acquisitions/Implementations for 1981 (%)										
Additional Software from the Manufacturer	6.67	0.00	75.00	41.67	14.29	25.00	25.00	50.00	13.33	
Proprietary Software from other suppliers	46.67	60.00	25.00	66.67	42.86	75.00	50.00	0.00	20.00	
Expansions to Data Communications facilities	40.00	30.00	0.00	33.33	42.86	37.50	25.00	50.00	10.00	
Distributed Processing capabilities	6.67	10.00	25.00	10.42	0.00	0.00	0.00	25.00	3.33	
Expansions to present hardware	66.67	10.00	25.00	33.33	42.86	37.50	100.00	75.00	23.33	
Another Computer System, same model	20.00	60.00	0.00	16.67	28.57	12.50	25.00	25.00	10.00	
Integrated Word Processing capabilities	6.67	10.00	25.00	12.50	0.00	0.00	0.00	0.00	6.67	
Plans for system replacement in 1981 (%)										
Yes, same manufacturer	0.00	0.00	0.00	2.08	0.00	12.50	0.00	0.00	16.67	
Yes, vendor unknown	0.00	0.00	25.00	4.17	0.00	0.00	25.00	0.00	3.33	
Yes, different vendor	0.00	0.00	25.00	8.33	14.29	12.50	25.00	0.00	6.67	
No	100.00	100.00	50.00	83.33	85.71	75.00	50.00	100.00	73.33	

## User Ratings of Computer Systems

Table 3. Desktop, Personal, &amp; Microcomputers

Alpha Micro (all models)	Altos (all models)	AM Jacquard (all models)	Apple (all models)	Commodore (all models)	Cromemco (all models)	Heath (all models)	Hewlett-Packard 9800	IBM 5100	Manufacturer and Model	
									Survey Item	
60.00	50.00	75.00	43.75	85.71	25.00	0.00	50.00	26.67	Significant Advantages (%)	
86.67	50.00	50.00	70.83	42.86	62.50	0.00	50.00	10.00	Users are happy with response time	
26.67	40.00	25.00	43.75	42.86	12.50	100.00	0.00	6.67	System is easy to expand/reconfigure	
6.67	50.00	0.00	10.42	0.00	12.50	0.00	25.00	26.67	System costs were less than expected	
20.00	30.00	0.00	10.42	0.00	12.50	25.00	0.00	6.67	Programs/data carried over from other systems are compatible, as vendor promised	
46.67	60.00	25.00	33.33	14.29	0.00	50.00	75.00	26.67	Terminals/peripherals carried over from other systems are compatible, as vendor promised	
13.33	0.00	0.00	20.83	14.29	0.00	50.00	25.00	33.33	System is power/energy efficient	
20.00	10.00	0.00	12.50	14.29	12.50	25.00	0.00	23.33	Productivity aids help us keep programming costs down	
6.67	10.00	25.00	25.00	0.00	0.00	25.00	0.00	20.00	Data base language is efficient and effective	
0.00	10.00	25.00	12.50	0.00	0.00	25.00	0.00	3.33	Delivery and/or installation of equipment was ahead of schedule	
0.00	0.00	25.00	2.08	0.00	0.00	0.00	0.00	6.67	Delivery of required software was ahead of schedule	
6.67	0.00	25.00	6.25	0.00	0.00	0.00	25.00	0.00	Significant Problems (%)	
20.00	10.00	25.00	8.33	0.00	12.50	0.00	0.00	3.33	Computer proposed by vendor was too small	
0.00	0.00	25.00	6.25	0.00	0.00	0.00	25.00	3.33	Installation of equipment was late	
26.67	10.00	25.00	6.25	0.00	50.00	0.00	0.00	3.33	Delivery of required software was late	
6.67	0.00	0.00	2.08	0.00	50.00	0.00	0.00	3.33	System costs (for hardware, vendor-supplied software, support) exceeded the expected total	
0.00	10.00	0.00	2.08	14.29	12.50	0.00	0.00	3.33	Vendor did not provide all the promised software or support	
6.67	0.00	0.00	2.08	0.00	12.50	0.00	0.00	3.33	Program/data compatibility not what vendor promised	
0.00	10.00	0.00	2.08	14.29	12.50	0.00	0.00	0.00	Terminals/peripherals compatibility not what vendor promised	
6.67	0.00	25.00	4.17	0.00	0.00	0.00	25.00	0.00	Vendor enhancements/changes to hardware/software hard to keep up with	
13.33	0.00	0.00	0.00	14.29	0.00	25.00	0.00	0.00	Equipment is excessively noisy	
0.00	0.00	0.00	2.08	0.00	12.50	0.00	0.00	0.00	Power and/or cooling requirements are excessive	
3.57	3.70	3.75	3.50	3.43	3.43	2.75	3.50	3.73	System Ratings (4.0-0.0)	
3.67	3.70	3.75	3.70	3.33	3.00	4.00	4.00	3.67	Ease of operation	
3.40	3.20	3.25	3.32	3.17	3.00	3.50	3.25	3.54	Reliability of Mainframe	
2.67	2.60	2.50	2.89	2.33	2.00	2.50	3.00	3.79	Reliability of Peripherals	
2.42	2.40	2.50	3.14	2.33	2.00	2.50	3.33	3.52	Maintenance service:	
2.42	2.57	2.50	3.03	2.00	2.38	2.25	2.00	3.24	Responsiveness	
2.25	2.25	1.75	2.78	2.33	2.43	2.00	2.00	3.23	Effectiveness	
2.43	2.11	2.00	3.09	1.50	2.86	2.75	1.33	2.93	Technical support:	
3.38	3.29	3.50	3.11	3.00	3.25	3.00	3.50	3.43	Trouble-shooting	
3.38	3.14	3.00	3.08	2.67	3.00	2.67	—	3.25	Education	
2.58	3.33	2.75	3.16	2.33	2.86	1.67	3.00	2.50	Documentation	
3.38	3.29	3.50	3.11	3.00	3.25	3.00	3.50	3.43	Manufacturer's software:	
3.38	3.14	3.00	3.08	2.67	3.00	2.67	—	3.25	Operating system	
2.58	3.33	2.75	3.16	2.33	2.86	1.67	3.00	2.50	Compilers & Assemblers	
3.50	3.11	3.50	3.31	3.00	2.88	3.00	3.25	3.59	Applications Programs	
3.00	3.40	3.00	3.13	2.50	3.00	2.33	2.67	3.00	Ease of programming	
3.50	3.20	3.25	3.46	3.43	2.88	2.75	3.25	3.38	Ease of conversion	
3.00	3.20	3.25	3.46	3.43	2.88	2.75	3.25	3.38	Overall satisfaction	
86.67	100.00	75.00	87.50	85.71	75.00	100.00	100.00	86.67	Did the system do what you expected it to do? (%)	
6.67	0.00	25.00	2.08	0.00	12.50	0.00	0.00	6.67	Yes	
6.67	0.00	0.00	8.33	14.29	12.50	0.00	0.00	3.33	No	
6.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Haven't decided	
86.67	100.00	75.00	93.62	100.00	87.50	75.00	100.00	89.66	Would you recommend system to another user? (%)	
13.33	0.00	25.00	2.13	0.00	12.50	25.00	0.00	6.90	Yes	
0.00	0.00	0.00	4.26	0.00	0.00	0.00	0.00	3.45	No	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Haven't decided	

## User Ratings of Computer Systems

Table 3. Desktop, Personal, &amp; Microcomputers

Survey Item	Manufacturer and Model		IMSAI (all models)	Intertec (all models)	North Star Horizon	Ohio Scientific (all models)	Pertac (all models)	Processor Technology (all models)	Radio Shack (all models)	Vector Graphic (all models)	Other Personnel Computers
No. of User Responses	7	6	14	9	9	4	70	11	77		
No. of Systems Represented	10	7	26	9	10	6	107	17	109		
Avg. Life of System (Mos.)	42.7	6.5	23.2	18.6	9.7	33.0	12.5	18.7	42.55		
Acquisition Method (%)											
Purchase	100.00	100.00	100.00	88.89	66.67	50.00	97.14	90.91	88.16		
Rental or Lease from Mfr.	0.00	0.00	0.00	11.11	11.11	0.00	2.86	0.00	3.95		
Lease from 3rd Party	0.00	0.00	0.00	0.00	22.22	50.00	0.00	9.09	7.89		
Principal Applications (%)											
Accounting/Billing	71.43	83.33	57.14	66.67	66.67	0.00	55.71	63.64	74.02		
Banking-check processing/loans/savings	14.29	0.00	0.00	0.00	0.00	0.00	1.43	0.00	3.90		
Construction/Architecture	0.00	16.67	7.14	0.00	0.00	0.00	2.86	0.00	2.60		
Education-scheduling/administration	0.00	0.00	0.00	11.11	22.22	0.00	11.43	9.09	6.49		
Engineering/Scientific	14.29	16.67	28.57	11.11	0.00	0.00	7.14	18.18	11.69		
Health care/Medical	0.00	16.67	0.00	0.00	22.22	0.00	5.71	0.00	6.49		
Insurance	0.00	0.00	0.00	0.00	11.11	0.00	4.29	0.00	6.49		
Manufacturing	28.57	0.00	7.14	0.00	11.11	0.00	5.71	0.00	14.29		
Mathematics/Statistics	42.86	16.67	14.29	11.11	0.00	0.00	14.29	36.36	14.29		
Order Processing/Inventory Control	57.14	33.33	28.57	11.11	33.33	25.00	21.43	27.27	38.96		
Payroll/Personnel	14.29	66.67	21.43	44.44	33.33	25.00	30.00	27.27	48.05		
Petroleum/Fuel analysis	14.29	0.00	0.00	0.00	0.00	0.00	1.43	0.00	1.30		
Process control	0.00	0.00	0.00	11.11	11.11	0.00	1.43	0.00	7.79		
Purchasing	14.29	0.00	0.00	0.00	22.22	0.00	8.57	0.00	16.88		
Sales Distribution	14.29	33.33	21.43	11.11	33.33	0.00	17.14	9.09	20.78		
Other	14.29	33.33	50.00	44.44	33.33	75.00	60.00	45.45	41.56		
Source of Applications Programs (%)											
In-house personnel	100.00	83.33	64.29	77.78	66.67	25.00	71.43	81.82	68.83		
"Ready-made" programs from manufacturer	0.00	50.00	42.86	44.44	44.44	25.00	54.29	72.73	41.56		
Contract Programming	0.00	33.33	14.29	22.22	44.44	25.00	17.14	0.00	12.99		
Manufacturer's Personnel	14.29	0.00	0.00	0.00	11.11	0.00	0.00	9.09	7.79		
Proprietary Software Packages	14.29	33.33	50.00	33.33	22.22	25.00	37.14	36.36	28.57		
Location of Computer (%)											
Distributed Processing Site	14.29	33.33	7.14	0.00	12.50	25.00	20.00	27.27	15.79		
Central Processing Installation	85.71	66.67	92.86	100.00	87.50	25.00	80.00	72.73	84.21		
Using Local Workstations/Terminals (%)	85.71	16.67	100.00	100.00	77.77	50.00	61.43	90.91	87.01		
Using Remote Workstations/Terminals (%)	0.00	16.67	21.43	0.00	11.11	0.00	18.57	9.09	27.27		
Using Data Base Management System (%)	14.29	0.00	35.71	66.67	11.11	25.00	34.29	36.36	31.17		
None	85.71	100.00	64.29	33.33	88.89	75.00	65.71	63.64	64.94		
Manufacturer's Package	0.00	0.00	0.00	66.67	0.00	0.00	29.17	0.00	29.17		
Outside Vendor's Package	100.00	0.00	40.00	16.67	0.00	100.00	41.67	50.00	41.67		
Home-Grown System	0.00	0.00	60.00	16.67	100.00	0.00	29.17	50.00	29.17		
Using Communications Monitor (%)	0.00	0.00	7.14	0.00	11.11	25.00	22.86	27.27	24.68		
None	100.00	100.00	92.86	100.00	77.78	50.00	74.29	72.73	71.43		
Manufacturer's Package	0.00	0.00	0.00	0.00	100.00	0.00	18.75	33.33	33.33		
Outside Vendor's Package	0.00	0.00	0.00	0.00	0.00	100.00	50.00	33.33	44.44		
Home-Grown System	0.00	0.00	100.00	0.00	0.00	0.00	31.25	33.33	22.22		
Using Integrated Word Processing Functions (%)	28.57	83.33	85.71	55.56	33.33	75.00	68.12	90.91	55.41		
Planned Acquisitions/Implementations for 1981 (%)											
Additional Software from the Manufacturer	0.00	16.67	35.71	0.00	33.33	25.00	40.00	18.18	23.38		
Proprietary Software from other suppliers	71.43	33.33	71.43	44.44	44.44	75.00	14.29	54.55	40.26		
Expansions to Data Communications facilities	14.29	33.33	42.86	0.00	44.44	0.00	34.29	36.36	16.88		
Distributed Processing capabilities	0.00	16.67	14.29	0.00	11.11	0.00	11.43	9.09	11.69		
Expansions to present hardware	42.86	66.67	64.29	22.22	22.22	25.00	45.71	27.27	40.26		
Another Computer System, same model	0.00	0.00	21.43	0.00	0.00	0.00	14.29	9.09	15.58		
Integrated Word Processing capabilities	0.00	16.67	21.43	11.11	11.11	0.00	2.86	9.09	10.39		
Plans for system replacement in 1981 (%)											
Yes, same manufacturer	0.00	0.00	0.00	0.00	0.00	0.00	2.86	9.09	9.09		
Yes, vendor unknown	28.57	16.67	7.14	0.00	0.00	0.00	5.71	0.00	1.30		
Yes, different vendor	14.29	16.67	0.00	33.33	11.11	25.00	4.29	0.00	10.39		
No	57.14	66.67	92.86	66.67	88.89	75.00	87.14	90.91	77.92		

## User Ratings of Computer Systems

Table 3. Desktop, Personal, &amp; Microcomputers

Manufacturer and Model									
Survey Item									
IMSAI (all models)	Intertec (all models)	North Star Horizon	Ohio Scientific (all models)	Perfec (all models)	Processor Technology (all models)	Radio Shack (all models)	Vector Graphic (all models)	Other Personnel Computers	
Significant Advantages (%)									
28.57	33.33	57.14	33.33	11.11	25.00	42.86	45.45	42.86	Users are happy with response time
42.86	33.33	71.43	22.22	33.33	25.00	61.43	81.82	50.65	System is easy to expand/reconfigure
28.57	50.00	35.71	11.11	11.11	25.00	35.71	36.36	27.27	System costs were less than expected
14.29	33.33	21.43	0.00	22.22	25.00	5.71	36.36	25.97	Programs/data carried over from other systems are compatible, as vendor promised
28.57	16.67	21.43	11.11	0.00	50.00	4.29	27.27	24.68	Terminals/peripherals carried over from other systems are compatible, as vendor promised
28.57	16.67	42.86	11.11	33.33	25.00	34.29	45.45	28.57	System is power/energy efficient
0.00	33.33	14.29	0.00	11.11	0.00	14.29	18.18	15.58	Productivity aids help us keep programming costs down
0.00	0.00	7.14	33.33	0.00	0.00	10.00	9.09	11.69	Data base language is efficient and effective
0.00	0.00	7.14	11.11	11.11	0.00	11.43	27.27	15.58	Delivery and/or installation of equipment was ahead of schedule
0.00	0.00	0.00	0.00	0.00	0.00	7.14	27.27	5.19	Delivery of required software was ahead of schedule
Significant Problems (%)									
0.00	0.00	7.14	0.00	33.33	0.00	2.86	0.00	7.79	Computer proposed by vendor was too small
0.00	33.33	14.29	22.22	33.33	0.00	7.14	9.09	10.39	Installation of equipment was late
0.00	33.33	14.29	0.00	22.22	25.00	18.57	9.09	16.88	Delivery of required software was late
14.29	0.00	7.14	11.11	11.11	0.00	7.14	9.09	10.39	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
28.57	50.00	28.57	44.44	33.33	50.00	15.71	0.00	22.08	Vendor did not provide all the promised software or support
0.00	0.00	0.00	22.22	11.11	0.00	4.29	0.00	6.49	Program/data compatibility not what vendor promised
0.00	16.67	0.00	0.00	0.00	0.00	1.43	9.09	6.49	Terminals/peripherals compatibility not what vendor promised
0.00	0.00	14.29	44.44	11.11	0.00	8.57	18.18	7.79	Vendor enhancements/changes to hardware/software hard to keep up with
0.00	0.00	0.00	33.33	11.11	0.00	4.29	0.00	15.58	Equipment is excessively noisy
0.00	0.00	0.00	11.11	0.00	0.00	1.43	0.00	2.60	Power and/or cooling requirements are excessive
System Ratings (4.0-0.0)									
3.29	2.83	3.57	3.22	3.44	3.25	3.47	3.82	3.39	Ease of operation
3.00	2.50	3.43	2.89	3.44	3.25	3.26	3.73	3.37	Reliability of Mainframe
3.00	2.50	3.31	3.25	3.33	3.25	2.91	3.55	3.15	Reliability of Peripherals
1.57	1.67	2.62	2.43	3.22	2.50	2.72	3.38	2.85	Maintenance service:
1.86	1.67	2.85	2.14	3.22	2.50	2.84	3.50	2.71	Responsiveness
									Effectiveness
1.86	1.67	2.42	1.86	3.11	2.75	2.32	3.00	2.36	Technical support:
1.86	1.67	2.42	2.13	2.75	2.33	2.39	2.80	2.11	Trouble-shooting
2.43	1.83	2.77	1.67	2.22	2.33	2.56	3.27	2.04	Education
									Documentation
2.40	2.67	3.21	2.89	3.11	3.00	2.75	3.36	3.21	Manufacturer's software:
2.20	2.60	3.18	2.63	2.80	3.00	2.65	3.55	3.00	Operating system
2.25	2.60	2.29	1.88	2.14	—	2.33	3.71	2.56	Compilers & Assemblers
									Applications Programs
2.67	2.83	3.29	2.67	3.11	3.50	3.36	3.55	3.12	Ease of programming
2.33	2.50	2.91	2.33	2.83	3.33	2.97	3.57	2.78	Ease of conversion
2.67	2.17	3.43	2.56	3.00	3.25	3.21	3.64	3.00	Overall satisfaction
Did the system do what you expected it to do? (%)									
85.71	83.33	92.86	77.78	55.56	100.00	92.86	100.00	80.52	Yes
14.29	0.00	0.00	22.22	11.11	0.00	4.29	0.00	9.09	No
0.00	16.67	7.14	0.00	33.33	0.00	2.86	0.00	10.39	Haven't decided
Would you recommend system to another user? (%)									
71.43	33.33	78.57	66.67	55.56	25.00	87.14	90.91	64.47	Yes
14.29	33.33	7.14	22.22	11.11	75.00	4.29	9.09	23.68	No
14.29	33.33	14.29	11.11	33.33	0.00	7.14	0.00	11.84	Haven't decided

### User Ratings of Computer Systems

**Table 4. Mainframe and Plug-Compatible Mainframe Vendor Summaries**

Survey Item	Manufacturer and Model		Amdahl	Burroughs	Control Data	Digital Equipment	Honeywell	IBM	Magnuson	NAS	NCR	UNIVAC	Other Mainframes	
No. of User Responses	30	246	29	39	163	1075	18	34	147	135	3			
No. of Systems Represented	41	287	49	49	182	1255	24	39	160	145	3			
Avg. Life of System (Mos.)	23.1	24.6	31.0	37.1	45.4	24.2	11.6	21.3	29.0	34.7	29.0			
Acquisition Method (%)														
Purchase	63.33	55.56	67.86	82.05	56.79	37.38	50.00	50.00	33.33	28.89	33.33			
Rental or Lease from Mfr.	16.67	39.09	32.14	2.56	35.80	28.69	44.44	11.76	44.22	62.96	33.33			
Lease from 3rd Party	20.00	5.35	0.00	15.38	7.40	33.93	5.56	38.24	22.45	8.15	33.33			
Principal Applications (%)														
Accounting/Billing	76.67	70.33	65.52	76.92	86.50	76.28	66.67	67.65	72.11	79.26	33.33			
Banking-check processing/loans/savings	20.00	23.17	10.34	2.56	7.97	14.70	22.22	11.76	23.13	5.93	0.00			
Construction/Architecture	6.67	2.03	13.79	5.13	4.90	3.07	0.00	0.00	2.04	2.96	0.00			
Education-scheduling/administration	13.33	11.38	37.93	43.59	15.33	10.70	16.67	14.71	6.12	18.52	0.00			
Engineering/Scientific	33.33	4.88	44.83	33.33	12.26	13.40	11.11	11.76	3.40	12.59	0.00			
Health care/Medical	20.00	6.10	6.90	12.82	8.58	9.30	5.56	8.82	8.84	11.11	0.00			
Insurance	13.33	7.72	6.90	2.56	4.29	13.77	5.56	23.53	3.40	11.85	33.33			
Manufacturing	13.33	15.04	13.79	12.82	24.53	26.33	11.11	20.59	21.77	20.00	33.33			
Mathematics/Statistics	33.33	8.13	31.03	46.15	13.49	14.88	22.22	17.65	2.72	17.04	0.00			
Order processing/Inventory control	43.33	42.68	31.03	35.90	52.76	50.23	38.89	41.18	41.50	51.85	66.67			
Payroll/Personnel	66.67	54.47	48.28	53.85	71.16	64.65	50.00	55.88	62.59	67.41	33.33			
Petroleum/Fuel analysis	3.33	3.25	0.00	2.56	1.84	2.33	0.00	0.00	2.04	5.93	0.00			
Process control	6.67	1.22	10.34	2.56	3.06	3.91	5.56	0.00	2.04	5.19	0.00			
Purchasing	50.00	29.27	27.59	28.21	36.80	31.63	22.22	29.41	19.73	31.85	0.00			
Sales Distribution	30.00	26.42	17.24	15.38	42.33	33.58	22.22	14.71	30.61	37.78	33.33			
Other	36.67	24.80	10.34	35.90	23.92	19.81	16.67	14.71	14.97	31.85	0.00			
Source of Applications Programs (%)														
In-house personnel	100.00	91.06	96.55	100.00	95.70	95.91	94.44	94.12	82.99	98.52	66.67			
"Ready-made" programs from manufacturer	30.00	32.52	31.03	25.64	33.12	33.67	38.89	32.35	62.59	31.11	33.33			
Contract Programming	46.67	30.89	24.14	35.90	29.44	34.98	44.44	61.76	25.85	26.67	33.33			
Manufacturer's Personnel	6.67	4.07	13.79	10.26	14.11	5.88	5.56	2.94	9.52	17.78	0.00			
Proprietary Software Packages	60.00	35.77	44.83	53.85	26.38	54.98	66.67	58.82	29.93	27.41	33.33			
Location of Computer (%)														
Distributed Processing Site	0.00	3.69	3.45	5.13	1.23	2.70	0.00	2.94	1.37	1.48	0.00			
Central Processing Installation	100.00	96.31	96.55	94.87	98.77	97.20	100.00	97.06	98.63	98.52	100.00			
Using Local Workstations/Terminals (%)	96.67	95.52	100.00	97.44	81.57	93.21	94.44	97.06	76.87	93.32	66.67			
Using Remote Workstations/Terminals (%)	100.00	62.60	82.76	89.74	57.02	72.18	55.56	88.24	48.97	68.89	33.33			
Using Data Base Management System (%)	93.33	45.93	58.62	53.85	36.80	50.05	38.89	64.71	22.45	41.48	0.00			
None	6.67	53.66	41.38	43.59	63.19	49.58	61.11	35.29	77.55	58.52	100.00			
Manufacturer's Package	35.71	88.39	47.06	47.37	77.96	60.04	14.29	9.52	27.27	85.71	0.00			
Outside Vendor's Package	60.71	2.68	41.18	36.84	10.16	35.27	85.71	76.19	51.52	7.14	0.00			
Home-Grown System	3.57	8.93	11.76	15.79	11.86	4.50	0.00	14.29	21.21	7.14	0.00			
Using Communications Monitor (%)														
None	6.67	33.33	20.69	51.28	42.33	19.16	27.78	8.82	54.42	37.78	66.67			
Manufacturer's Package	44.44	82.17	47.83	77.78	77.77	76.34	38.46	22.58	58.46	92.50	100.00			
Outside Vendor's Package	55.56	5.10	39.13	11.11	12.22	20.10	53.85	67.74	30.77	1.25	0.00			
Home-Grown System	0.00	12.74	13.04	11.11	10.00	3.57	7.69	9.68	10.77	6.25	0.00			
Using Integrated Word Processing Functions (%)	16.67	10.16	3.45	35.90	4.29	11.72	11.11	26.47	2.72	10.37	0.00			
Planned Acquisitions/Implementations for 1981 (%)														
Additional Software from the Manufacturer	43.33	30.89	27.59	10.26	25.15	52.74	38.89	20.59	36.73	29.63	66.67			
Proprietary Software from other suppliers	73.33	30.49	34.48	48.72	17.17	55.72	72.22	70.59	30.61	22.22	66.67			
Expansions to Data Communications facilities	66.67	54.47	55.17	41.03	49.69	52.37	72.22	64.71	38.78	56.30	33.33			
Distributed Processing capabilities	53.33	13.01	6.90	17.95	20.85	19.07	11.11	26.47	9.52	12.59	66.67			
Expansions to present hardware	73.33	48.78	55.17	58.97	45.39	52.28	50.00	55.88	39.46	48.89	33.33			
Another Computer System, same model	10.00	5.69	10.34	5.13	3.06	8.00	11.11	5.88	2.72	11.85	0.00			
Integrated Word Processing capabilities	20.00	12.20	3.45	20.51	4.90	12.84	5.56	5.88	10.88	6.67	0.00			
Plans for system replacement in 1981 (%)														
Yes, same manufacturer	3.33	16.26	10.34	7.69	9.20	23.61	5.56	0.00	5.44	12.59	33.33			
Yes, vendor unknown	13.33	2.85	3.45	10.26	5.52	2.98	0.00	2.94	2.72	3.70	0.00			
Yes, different manufacturer	0.00	2.44	10.34	0.00	9.81	0.74	0.00	14.71	7.48	3.70	0.00			
No	83.33	78.05	75.86	82.05	74.84	71.91	94.44	82.35	83.67	80.00	66.67			

## User Ratings of Computer Systems

Table 4. Mainframe and Plug-Compatible Mainframe Vendor Summaries

Amdahl	Burroughs	Control Data	Digital Equipment	Honeywell	IBM	Magnuson	NAS	NCR	UNIVAC	Other Mainframes	Manufacturer and Model	
											Survey Item	
36.67	50.81	68.97	69.23	41.10	50.23	44.44	58.82	54.42	52.59	66.67	Significant Advantages (%)	
26.67	78.46	65.52	64.10	49.08	40.56	94.44	38.24	70.07	62.22	66.67	Users are happy with response time	
43.33	19.11	17.24	12.82	16.56	14.05	55.56	29.41	19.73	16.30	66.67	System is easy to expand/reconfigure	
80.00	54.88	48.28	35.90	33.16	58.51	88.89	76.47	63.27	44.44	100.00	System costs were less than expected	
70.00	41.06	48.28	38.46	15.33	46.42	83.33	76.47	37.41	20.74	66.67	Programs/data carried over from other systems are compatible, as vendor promised	
46.67	21.95	37.93	10.26	9.20	27.35	88.89	58.82	20.41	14.81	33.33	Terminals/peripherals carried over from other systems are compatible, as vendor promised	
6.67	41.06	20.69	69.23	16.56	26.70	22.22	17.65	24.49	35.56	0.00	System is power/energy efficient	
10.00	32.52	10.34	25.64	14.72	12.47	5.56	11.76	6.80	17.04	0.00	Productivity aids help us keep programming costs down	
56.67	8.94	6.90	15.38	9.81	14.60	55.56	32.35	14.29	25.93	33.33	Data base language is efficient and effective	
6.67	5.28	3.45	12.82	4.29	6.79	5.56	5.88	8.16	13.33	0.00	Delivery and/or installation of equipment was ahead of schedule	
											Delivery of required software was ahead of schedule	
3.33	7.72	0.00	5.13	10.42	4.28	0.00	0.00	6.12	17.78	33.33	Significant Problems (%)	
0.00	37.80	10.34	7.69	12.26	7.26	0.00	5.88	19.05	5.93	0.00	Computer proposed by vendor was too small	
0.00	12.20	0.00	7.69	13.49	6.79	5.56	0.00	14.97	7.41	0.00	Installation of equipment was late	
10.00	6.91	0.00	2.56	15.33	11.35	5.56	0.00	15.65	13.33	33.33	Delivery of required software was late	
6.67	19.51	17.24	15.38	23.31	10.33	0.00	5.88	23.13	17.04	0.00	System costs (for hardware, vendor-supplied software, support) exceeded the expected total	
0.00	2.03	0.00	2.56	9.20	2.33	0.00	0.00	4.76	5.19	0.00	Vendor did not provide all the promised software or support	
0.00	5.28	6.90	0.00	6.74	1.12	0.00	0.00	2.72	3.70	0.00	Program/data compatibility not what vendor promised	
3.33	11.79	13.79	7.69	14.72	20.56	0.00	5.88	14.29	17.78	0.00	Terminals/peripherals compatibility not what vendor promised	
0.00	10.98	0.00	15.38	12.88	1.58	0.00	2.94	6.80	5.93	0.00	Vendor enhancements/changes to hardware/software hard to keep up with	
3.33	13.82	17.24	15.38	17.18	15.35	0.00	2.94	7.48	8.15	0.00	Equipment is excessively noisy	
											Power and/or cooling requirements are excessive	
3.40	3.65	3.28	3.79	3.18	3.20	3.72	3.68	3.31	3.28	3.67	System Ratings (4.0-0.0)	
3.60	3.45	3.31	3.44	3.25	3.52	3.89	3.41	3.48	3.41	3.33	Ease of operation	
3.07	2.73	2.93	2.97	2.95	3.22	3.19	2.91	3.06	2.92	3.00	Reliability of Mainframe	
3.63	2.86	3.31	3.26	2.98	3.22	3.47	3.29	3.07	3.29	3.67	Reliability of Peripherals	
3.33	2.67	2.96	3.13	2.66	3.15	3.35	3.06	2.94	3.08	3.00	Maintenance service:	
											Responsiveness	
3.23	2.37	2.83	2.65	2.61	2.79	3.31	2.97	2.45	2.65	3.50	Effectiveness	
3.07	2.37	2.44	2.69	2.31	2.79	2.94	2.42	2.58	2.52	3.33	Technical support:	
3.10	2.13	2.54	2.66	2.27	2.73	3.00	2.45	2.41	2.47	3.00	Trouble-shooting	
											Education	
											Documentation	
3.17	3.70	3.04	3.58	3.22	3.04	3.23	3.17	3.06	3.24	3.00	Manufacturer's software:	
3.19	3.40	3.08	3.16	3.12	3.18	3.08	3.18	3.03	3.18	3.50	Operating system	
3.06	2.59	2.76	2.53	2.35	2.84	2.88	2.85	2.64	2.69	3.00	Compilers & Assemblers	
											Applications Programs	
3.17	3.48	3.04	3.71	3.04	2.96	3.25	3.15	3.02	3.17	3.00	Ease of programming	
3.38	3.23	3.18	3.38	2.65	2.94	3.59	3.28	3.19	2.90	3.00	Ease of conversion	
3.10	3.14	3.07	3.47	2.89	3.09	3.61	3.32	3.04	3.02	3.00	Overall satisfaction	
100.00	86.99	93.10	97.44	78.52	91.72	88.89	94.12	86.39	80.74	100.00	Did the system do what you expected it to do? (%)	
0.00	7.32	3.45	2.56	10.42	2.14	0.00	2.94	7.48	8.15	0.00	Yes	
0.00	5.69	3.45	0.00	9.81	5.95	11.11	2.94	6.12	11.11	0.00	No	
											Haven't decided	
96.67	80.82	75.86	86.84	57.05	82.60	94.44	91.18	74.66	70.15	100.00	Would you recommend system to another user? (%)	
0.00	10.61	17.24	13.16	29.49	10.33	0.00	5.88	15.07	16.42	0.00	Yes	
3.33	8.57	6.90	0.00	13.46	6.60	5.56	2.94	10.27	13.43	0.00	No	
											Haven't decided	

## User Ratings of Computer Systems

Table 5. Minicomputers &amp; Small Business Computers

Survey Item	Manufacturer and Model		Basic Four	BTI	Burroughs	Cado	Computer Automation	Data General	Datapoint	Digital Equipment	Four-Phase	General Automation
No. of User Responses	37	6	51	5	6	139	60	290	27	12		
No. of Systems Represented	39	15	59	5	11	199	124	415	35	13		
Avg. Life of System (Mos.)	19.3	27.4	29.3	11.6	20.2	27.0	15.8	27.3	29.8	60.1		
Acquisition Method (%)												
Purchase	83.78	83.33	78.43	80.00	66.67	87.77	60.00	79.31	14.81	75.00		
Rental or Lease from Mfr.	2.70	0.00	13.73	0.00	0.00	1.44	31.67	4.83	59.26	16.67		
Lease from 3rd Party	13.51	16.67	7.84	20.00	33.33	10.79	8.33	15.86	25.93	8.33		
Principal Applications (%)												
Accounting/Billing	83.78	100.00	75.00	100.00	50.00	64.29	73.33	54.76	77.78	58.33		
Banking-check processing/loans/savings	8.11	0.00	19.23	0.00	0.00	5.00	3.33	2.38	0.00	0.00		
Construction/Architecture	5.41	0.00	3.85	0.00	0.00	5.71	10.00	3.06	0.00	16.67		
Education-scheduling/administration	0.00	16.67	3.85	0.00	0.00	9.29	3.33	10.88	0.00	33.33		
Engineering/Scientific	2.70	0.00	1.92	0.00	0.00	15.00	6.67	24.15	7.41	33.33		
Health care/Medical	2.70	0.00	11.54	0.00	0.00	5.71	5.00	10.20	37.04	0.00		
Insurance	5.41	0.00	5.77	20.00	16.67	3.57	10.00	4.08	11.11	0.00		
Manufacturing	29.73	0.00	13.46	0.00	16.67	19.29	25.00	9.68	22.22	25.00		
Mathematics/Statistics	5.41	0.00	1.92	0.00	0.00	11.43	11.67	18.03	3.70	16.67		
Order Processing/Inventory Control	67.57	33.33	30.77	20.00	66.67	45.00	50.00	29.25	48.15	25.00		
Payroll/Personnel	67.57	83.33	46.15	40.00	33.33	35.71	35.00	32.99	55.56	41.67		
Petroleum/Fuel analysis	5.41	16.67	0.00	0.00	0.00	1.43	3.33	1.70	0.00	0.00		
Process control	5.41	0.00	0.00	0.00	0.00	3.57	6.67	4.42	0.00	0.00		
Purchasing	43.24	16.67	11.54	20.00	16.67	18.57	21.67	14.97	33.33	16.67		
Sales Distribution	59.46	33.33	23.08	40.00	33.33	29.29	36.67	19.39	22.22	16.67		
Other	21.62	33.33	9.62	0.00	0.00	27.14	35.00	31.29	22.22	16.67		
Source of Applications Programs (%)												
In-house personnel	54.05	83.33	46.15	20.00	83.33	77.86	78.33	78.91	70.37	83.33		
"Ready-made" programs from manufacturer	24.32	0.00	50.00	80.00	0.00	12.86	11.67	25.17	22.22	33.33		
Contract Programming	67.57	16.67	40.38	0.00	16.67	30.71	40.00	27.55	29.63	25.00		
Manufacturer's Personnel	2.70	0.00	3.85	0.00	16.67	2.86	1.67	2.72	0.00	8.33		
Proprietary Software Packages	43.24	33.33	25.00	0.00	16.67	37.86	36.67	45.58	37.04	33.33		
Location of Computer (%)												
Distributed Processing Site	0.00	0.00	4.00	0.00	83.33	6.43	25.00	10.65	59.26	0.00		
Central Processing Installation	100.00	100.00	96.00	100.00	16.67	93.57	75.00	89.35	40.74	100.00		
Using Local Workstations/Terminals (%)	100.00	100.00	96.15	100.00	83.33	100.00	98.44	99.32	100.00	100.00		
Using Remote Workstations/Terminals (%)	37.84	100.00	96.15	0.00	83.33	97.86	98.44	96.60	100.00	100.00		
Using Data Base Management System (%)												
None	21.62	16.67	26.92	40.00	50.00	29.29	11.67	39.12	18.52	33.33		
Manufacturer's Package	78.38	83.33	73.08	60.00	50.00	70.71	88.33	60.88	81.48	66.67		
Outside Vendor's Package	37.50	0.00	50.00	100.00	0.00	46.15	28.57	30.00	75.00	25.00		
Home-Grown System	50.00	0.00	41.67	0.00	50.00	20.51	14.29	40.91	25.00	50.00		
Using Communications Monitor (%)												
None	16.22	33.33	30.77	0.00	66.67	26.43	45.00	26.53	40.74	0.00		
Manufacturer's Package	83.78	66.67	69.23	100.00	33.33	73.57	55.00	73.47	59.26	100.00		
Outside Vendor's Package	100.00	100.00	76.92	0.00	50.00	51.52	87.50	60.00	81.82	0.00		
Home-Grown System	0.00	0.00	15.38	0.00	50.00	21.21	12.50	23.08	18.18	0.00		
Using Integrated Word Processing Functions (%)	0.00	0.00	7.69	0.00	0.00	27.27	0.00	16.92	0.00	0.00		
Planned Acquisitions/Implementations for 1981 (%)	24.32	16.67	9.62	60.00	16.67	23.57	20.00	34.69	37.04	25.00		
Additional Software from the Manufacturer	13.51	0.00	25.00	20.00	0.00	20.71	31.67	15.99	44.44	0.00		
Proprietary Software from other suppliers	21.62	16.67	19.23	20.00	0.00	29.29	35.00	36.73	7.41	0.00		
Expansions to Data Communications facilities	37.84	16.67	28.85	0.00	33.33	22.86	26.67	26.53	25.93	16.67		
Distributed Processing capabilities	8.11	0.00	11.54	0.00	0.00	9.29	25.00	9.52	22.22	8.33		
Expansions to present hardware	40.54	16.67	30.77	0.00	16.67	50.71	55.00	49.32	51.85	16.67		
Another Computer System, same model	8.11	66.67	3.85	0.00	33.33	11.43	13.33	11.90	3.70	8.33		
Integrated Word Processing capabilities	8.11	16.67	9.62	0.00	0.00	13.57	21.67	11.90	18.52	8.33		
Plans for system replacement in 1981 (%)												
Yes, same manufacturer	8.11	0.00	17.31	0.00	0.00	7.14	0.00	11.90	11.11	0.00		
Yes, vendor unknown	2.70	0.00	3.85	20.00	16.67	3.57	3.33	1.02	7.41	25.00		
Yes, different vendor	5.41	0.00	7.69	0.00	16.67	5.00	5.00	3.40	0.00	25.00		
No	81.08	100.00	71.15	80.00	66.67	82.14	91.67	82.65	77.78	50.00		

## User Ratings of Computer Systems

Table 5. Minicomputers &amp; Small Business Computers

Basic Four	BTI	Burroughs	Cado	Computer Automation	Data General	Datapoint	Digital Equipment	Four-Phase	General Automation	Manufacturer and Model	
										Survey Item	
59.46	100.00	28.85	60.00	33.33	47.86	56.67	63.95	59.26	25.00	Significant Advantages (%)	
62.16	100.00	48.08	60.00	33.33	62.86	75.00	63.95	59.26	8.33		
10.81	0.00	7.69	40.00	0.00	17.14	25.00	13.27	25.93	0.00		
27.03	33.33	9.62	0.00	0.00	23.57	43.33	25.85	22.22	41.67		
18.92	66.67	9.62	0.00	0.00	21.43	16.67	27.55	18.52	16.67		
21.62	33.33	11.54	20.00	0.00	16.43	21.67	16.33	18.52	16.67		
37.84	33.33	7.69	20.00	33.33	29.29	25.00	27.21	25.93	8.33		
21.62	0.00	7.69	0.00	0.00	15.00	11.67	15.99	11.11	8.33		
16.22	33.33	7.69	60.00	16.67	9.29	13.33	10.20	7.41	0.00		
10.81	16.67	5.77	40.00	0.00	9.29	6.67	5.10	11.11	0.00		
13.51	0.00	26.92	0.00	16.67	18.57	11.67	9.18	3.70	8.33	Significant Problems (%)	
5.41	0.00	30.77	0.00	16.67	18.57	15.00	19.39	7.41	0.00		
2.70	0.00	21.15	20.00	16.67	16.43	10.00	14.29	11.11	16.67		
0.00	0.00	23.08	0.00	33.33	12.86	1.67	8.50	7.41	33.33		
20.00	0.00	23.08	0.00	50.00	21.43	6.67	13.27	29.63	58.33		
20.00	0.00	15.38	0.00	16.67	5.71	1.67	2.38	7.41	8.33		
0.00	0.00	5.77	14.29	16.67	3.57	5.00	1.70	0.00	8.33		
20.00	0.00	17.31	0.00	0.00	17.14	11.67	10.88	7.41	25.00		
0.00	0.00	13.46	14.29	0.00	10.71	6.67	7.82	7.41	16.67		
0.00	0.00	5.77	0.00	16.67	10.00	1.67	6.80	3.70	8.33		
3.73	4.00	3.08	3.20	3.17	3.38	3.63	3.48	3.48	2.67	System Ratings (4.0-0.0)	
3.49	3.83	3.21	3.40	2.50	3.34	3.53	3.54	3.42	3.42		
3.22	3.50	2.75	3.40	1.83	2.99	3.15	3.21	3.23	2.58		
3.05	3.67	2.67	3.20	2.50	2.82	3.32	3.12	3.22	2.33		
3.03	3.67	2.75	3.00	2.50	2.78	3.10	2.97	3.08	2.89		
2.59	3.67	2.21	2.80	2.00	2.44	2.60	2.70	2.64	2.00		
2.27	2.83	2.45	2.80	2.17	2.47	2.62	2.62	2.68	1.80		
2.32	2.83	2.14	2.80	1.83	2.44	2.63	2.73	2.58	2.00		
3.51	3.83	3.15	3.20	2.83	3.09	3.10	3.38	3.00	2.17	Manufacturer's software:	
3.47	3.50	2.69	4.00	2.83	2.99	3.17	3.16	3.00	2.42		
3.21	3.00	2.39	3.40	2.00	2.64	2.74	2.82	3.05	2.00		
3.64	3.67	2.72	2.50	2.83	3.17	3.12	3.28	3.05	2.45		
3.03	3.33	2.51	1.75	2.40	2.90	2.84	2.92	3.05	2.33		
3.24	3.83	2.68	3.50	2.33	2.99	3.10	3.23	3.15	2.17		
89.19	100.00	57.69	80.00	66.67	82.86	85.00	91.84	85.19	66.67	Did the system do what you expected it to do? (%)	
5.41	0.00	26.92	20.00	33.33	9.29	1.67	2.04	3.70	8.33		
5.41	0.00	15.38	0.00	0.00	7.86	13.33	5.44	11.11	25.00		
86.49	100.00	64.00	80.00	50.00	71.43	85.00	87.28	81.48	16.67		
10.81	0.00	26.00	20.00	33.33	12.14	1.67	5.50	3.70	75.00		
2.70	0.00	10.00	0.00	16.67	16.43	13.33	7.22	14.81	8.33		
86.49	100.00	64.00	80.00	50.00	71.43	85.00	87.28	81.48	16.67	Would you recommend system to another user? (%)	
10.81	0.00	26.00	20.00	33.33	12.14	1.67	5.50	3.70	75.00		
2.70	0.00	10.00	0.00	16.67	16.43	13.33	7.22	14.81	8.33		

## User Ratings of Computer Systems

Table 5. Minicomputers &amp; Small Business Computers

Survey Item	Harris	Hewlett-Packard	Honeywell	IBM	MICOS	Microdata	Modcomp	NCR	Nixdorf	Northern Telecom
No. of User Responses	13	173	28	835	5	52	4	83	7	12
No. of Systems Represented	13	217	44	996	5	64	4	87	13	18
Avg. Life of System (Mos.)	42.3	22.4	32.1	29.1	21.8	25.2	10.0	44.9	64.4	34.8
Acquisition Method (%)										
Purchase	61.54	75.72	78.57	48.13	100.00	73.08	75.00	62.65	71.43	16.67
Rental or Lease from Mfr.	23.08	8.09	0.00	45.13	0.00	0.00	0.00	25.30	28.57	83.33
Lease from 3rd Party	15.38	16.18	21.43	6.74	0.00	26.92	25.00	12.50	0.00	0.00
Principal Applications (%)										
Accounting/Billing	69.23	71.10	55.17	83.75	100.00	92.31	75.00	79.76	85.71	75.00
Banking-check processing/loans/savings	7.69	4.05	3.45	5.03	0.00	3.85	0.00	14.29	0.00	8.33
Construction/Architecture	0.00	6.36	3.45	4.07	0.00	1.92	0.00	2.38	14.29	0.00
Education-scheduling/administration	53.85	10.40	3.45	4.67	20.00	3.85	0.00	9.52	0.00	8.33
Engineering/Scientific	15.38	14.45	3.45	3.35	0.00	1.92	0.00	2.38	0.00	8.33
Health care/Medical	15.38	10.40	10.34	5.75	0.00	5.77	50.00	4.76	0.00	0.00
Insurance	7.69	7.50	0.00	4.91	20.00	5.77	25.00	0.00	14.29	8.33
Manufacturing	7.69	9.43	20.69	33.41	0.00	23.08	0.00	8.33	0.00	41.67
Mathematics/Statistics	46.15	10.98	3.45	4.91	0.00	5.77	0.00	3.57	0.00	8.33
Order Processing/Inventory Control	23.08	45.09	41.38	58.68	60.00	57.69	25.00	41.67	57.14	75.00
Payroll/Personnel	84.62	49.13	37.93	66.11	40.00	55.77	50.00	69.05	57.14	83.33
Petroleum/Fuel analysis	7.69	2.89	0.00	1.92	0.00	0.00	0.00	2.38	14.29	0.00
Process control	7.69	2.31	3.45	3.59	0.00	3.85	25.00	3.57	0.00	8.33
Purchasing	7.69	28.32	13.79	28.87	0.00	44.23	25.00	21.43	28.57	33.33
Sales Distribution	7.69	24.86	27.59	43.35	20.00	44.23	25.00	27.38	57.14	25.00
Other	15.38	21.39	41.38	19.52	20.00	34.62	0.00	15.48	42.86	8.33
Source of Applications Programs (%)										
In-house personnel	84.62	83.24	79.31	86.59	60.00	67.31	50.00	63.10	57.14	83.33
"Ready-made" programs from manufacturer	0.00	24.28	10.34	32.93	20.00	5.77	0.00	51.19	28.57	16.67
Contract Programming	15.38	37.57	48.28	33.65	0.00	50.00	0.00	23.81	14.29	41.67
Manufacturer's Personnel	0.00	2.31	3.45	3.35	0.00	1.92	0.00	15.48	14.29	0.00
Proprietary Software Packages	38.46	43.35	17.24	19.96	40.00	42.31	50.00	17.86	0.00	25.00
Location of Computer (%)										
Distributed Processing Site	30.77	9.25	20.69	8.84	0.00	7.69	25.00	9.52	33.33	66.67
Central Processing Installation	69.23	90.75	79.31	91.16	100.00	92.31	75.00	90.48	66.67	33.33
Using Local Workstations/Terminals (%)	100.00	100.00	100.00	88.15	100.00	100.00	100.00	100.00	85.71	100.00
Using Remote Workstations/Terminals (%)	100.00	98.84	96.55	35.33	100.00	100.00	100.00	96.43	71.43	83.33
Using Data Base Management System (%)										
None	53.85	85.55	31.03	15.45	60.00	86.54	50.00	11.90	42.86	16.67
Manufacturer's Package	46.15	14.45	68.97	83.11	40.00	13.46	50.00	88.10	57.14	83.33
Outside Vendor's Package	14.29	96.60	57.14	60.00	66.67	88.10	0.00	62.50	66.67	0.00
Home-Grown System	85.71	0.68	14.29	8.80	33.33	7.14	100	12.50	0.00	50.00
Using Communications Monitor (%)										
None	46.15	35.84	41.38	24.91	20.00	30.77	50.00	11.90	71.43	58.37
Manufacturer's Package	53.85	64.16	58.62	72.22	80.00	69.23	50.00	88.10	28.57	41.67
Outside Vendor's Package	100.00	87.27	55.56	83.58	100.00	75.00	0.00	71.43	80.00	71.43
Home-Grown System	0.00	9.09	33.33	8.46	0.00	8.33	50.00	28.57	0.00	14.29
Using Integrated Word Processing Functions (%)	23.08	28.90	27.59	12.93	0.00	51.92	0.00	4.76	14.29	0.00
Planned Acquisitions/Implementations for 1981 (%)										
Additional Software from the Manufacturer	38.46	32.95	10.34	19.76	20.00	5.77	0.00	20.24	28.57	16.67
Proprietary Software from other suppliers	30.77	39.88	24.14	21.92	0.00	28.85	25.00	21.43	0.00	16.67
Expansions to Data Communications facilities	30.77	36.99	24.14	31.14	20.00	26.92	25.00	21.43	28.57	41.67
Distributed Processing capabilities	7.69	10.98	6.90	13.89	0.00	13.46	0.00	3.57	14.29	33.33
Expansions to present hardware	46.15	57.23	41.38	40.72	40.00	32.69	75.00	29.76	14.29	33.33
Another Computer System, same model	23.08	8.67	13.79	5.88	20.00	9.62	0.00	14.29	0.00	8.33
Integrated Word Processing capabilities	15.38	13.29	10.34	13.17	20.00	9.62	0.00	5.95	14.29	8.33
Plans for system replacement in 1981 (%)										
Yes, same manufacturer	23.08	9.25	3.45	14.73	0.00	1.92	0.00	16.67	0.00	0.00
Yes, vendor unknown	0.00	1.16	3.45	2.99	0.00	7.69	0.00	15.48	0.00	16.67
Yes, different vendor	23.06	1.16	6.90	5.39	20.00	9.62	0.00	16.67	0.00	25.00
No	53.85	88.44	79.31	78.80	80.00	80.77	100.00	50.00	100.00	58.33